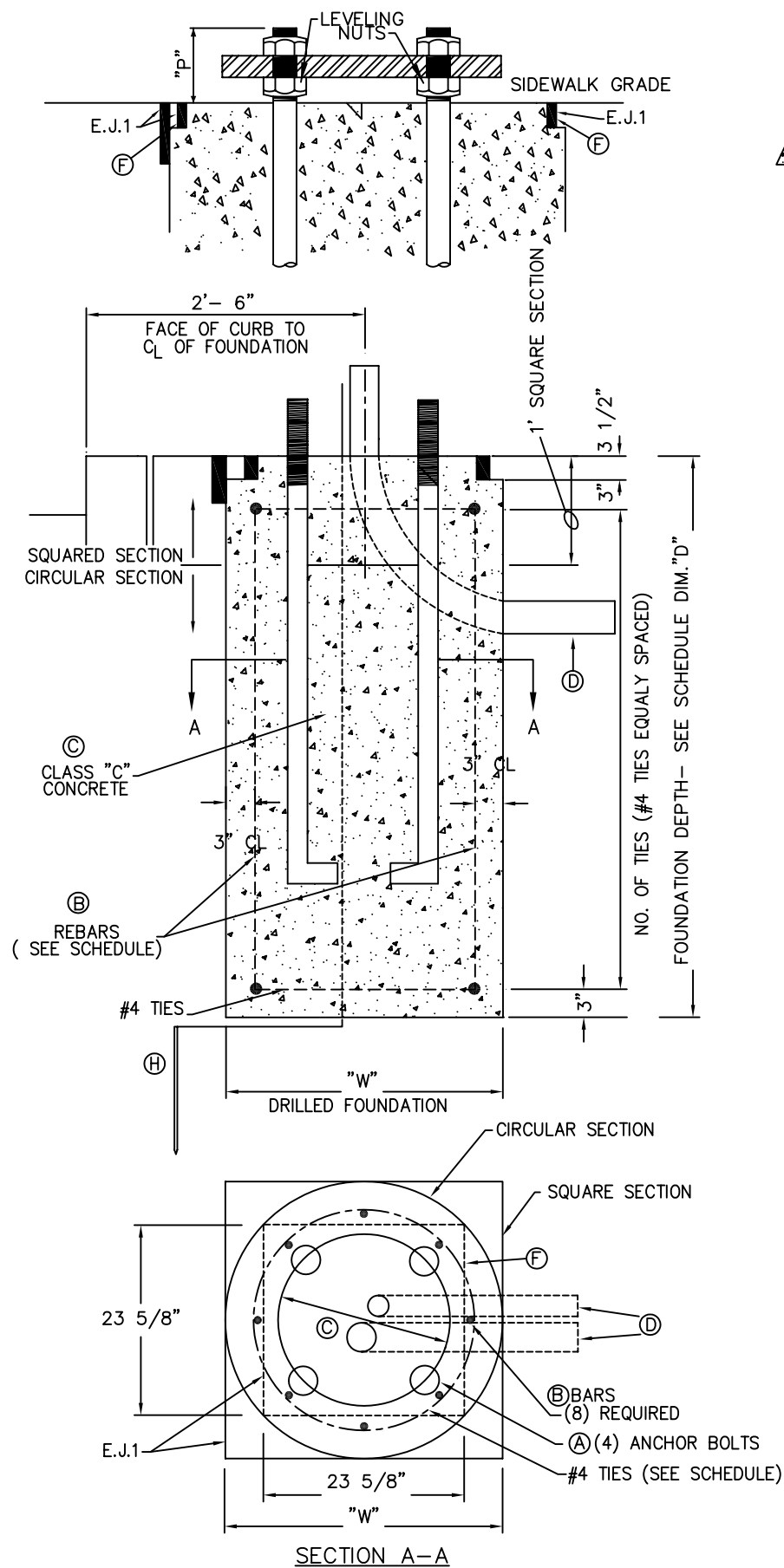
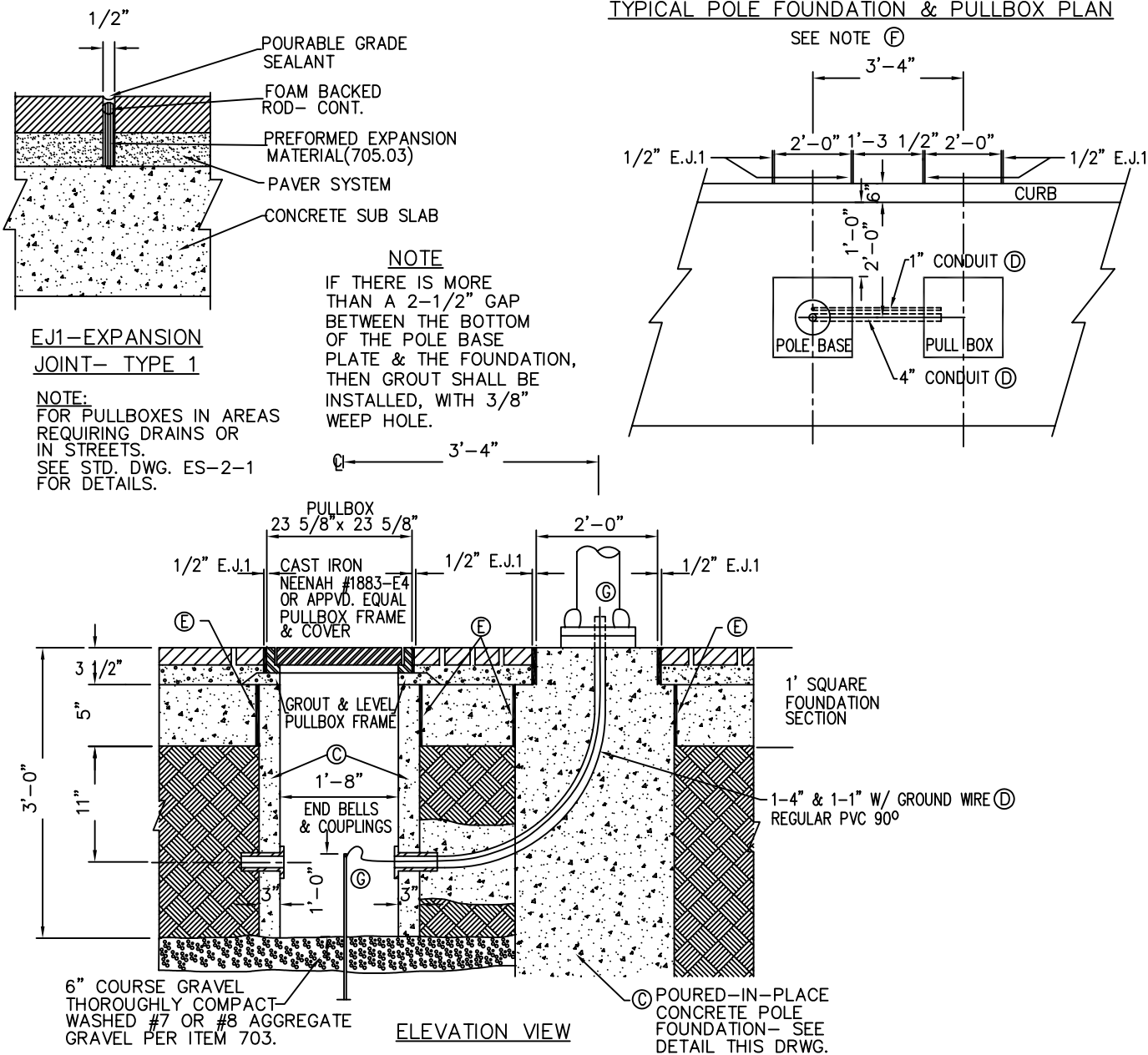


TYPICAL MOL/T POLE FOUNDATION



TYPICAL POLE FOUNDATION & PULLBOX PLAN



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

GENERAL NOTES:

- (A) ANCHOR BOLTS-NUTS, BOLTS & WASHERS ARE NORMALLY FURNISHED BY THE POLE FABRICATOR. THE CONTRACTOR SHOULD SCHEDULE THE PROCUREMENT OF THESE ITEMS PRIOR TO THE FABRICATION OF THE POLES.
- (B) REINFORCING STEEL-REBARS SHALL MEET THE REQUIREMENTS OF ODOT ITEM 709.01 (ASTM A615) AND SHALL BE DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT. REBARS SHALL BE PLACED IN ACCORDANCE WITH ODOT ITEM 509.
- (C) CONCRETE-CONCRETE SHALL BE CLASS "C" DEPTH-FOUNDATION DEPTHS ARE FOR IN SITU SOILS RANGING FROM INSATURATED SOFT CLAY TO SAND & GRAVEL- ADJUSTMENTS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER IF EXCESSIVE FILL, UNUSUAL SOIL CONDITIONS OR VOIDS SUCH AS BASEMENTS ARE ENCOUNTERED.
- (D) CONDUIT- PVC CONDUIT 1-4" INCH FOR POWER, LIGHTING & SIGNAL CABLE, 1-1" INCH FOR GROUND WIRE (SEE GROUND ROD).
- (E) EXPANSION JOINT PREFORMED FILLER PER 705.03. USE OF LEVELING NUTS  
ITEM 1.  
a. TURN LEVELING NUT ON EACH BOLT.  
b. PLACE POLE IN POSITION ON LEVELING NUTS.  
c. TURN TOP NUTS INTO PLACE LOOSELY.  
d. LEVEL POLE BY ADJUSTING BOTH UPPER & LOWER NUTS  
ITEM 2.  
AFTER ALL PROPOSED EQUIPMENT AND MATERIALS WHICH WILL BE SUPPORTED BY THE POLE, HAVE BEEN ATTACHED, THE LEVELING NUTS SHALL BE ADJUSTED SO THAT THE CENTER OF THE TOP OF THE POLE IS DIRECTLY ABOVE THE CENTER OF ITS BASE.
- (F) FOUNDATION- DIM. SET FOR SIDEWALK PAVERS. IF NONE USED, USE FULL WIDTH OF FOUNDATION TO GRADE.  
EXPANSION JOINT- SEE DETAIL EJ1
- (G) GROUND ROD- 1" INCH DIA. BY 10' LONG COPPER COVERED STEEL. (BONDED COPPER TO STEEL) EXOTHERMICAL WELD A NO. 4 AWG. 600 VOLT INSULATED CABLE (RHH/ RHW/ USE) (OR TYPE UF) FROM GROUND ROD TO POLE GROUND LUG. ROUTE CABLE THRU A SEPARATE 1" FLEXIBLE CONDUIT.
- (H) WHERE PULLBOX IS LOCATED IN A BASEMENT AREA, INSTALL GROUND ROD BELOW FOUNDATION AND ROUTE GROUND WIRE THRU FOUNDATION TO POLE GROUND LUG. FOR TESTING SEE ODOT ITEM 625.10.
- CURING AND LOADING POLES MAY BE BOLTED ON FOUNDATIONS AFTER A MINIMUM OF 7 DAYS CURING, HOWEVER, POLES SHALL NOT BE LOADED WITH TRAFFIC BOOMS, SPAN WIRE AND EQUIPMENT WITH THE FOUNDATION CONCRETE LESS THAN 14 DAYS CURED.

SPECIAL FOUNDATION NOTES

REFER TO ES-8-12B

- (J) CONTINUOUS BOOM UP TO 50' IN LENGTH
- (K) CONTINUOUS BOOM 51' TO 60' IN LENGTH
- (L) CONTINUOUS BOOM 61' TO 70' IN LENGTH
- (M) CONTINUOUS BOOM 71' TO 80' IN LENGTH

NOTE:  
SPECIAL FOUNDATION DESIGN WILL BE REQUIRED WHERE CONTINUOUS BOOMS EXCEED 80' IN LENGTH. SEE PLAN SHEETS.



MPL/MOL- T SYSTEMS ES-8

TYPICAL FOUNDATION  
AND INSTALLATION OF  
MOL/T POLES

CITY OF CINCINNATI  
DEPT. OF TRANSPORTATION & ENGINEERING  
DIV. OF TRAFFIC ENGINEERING

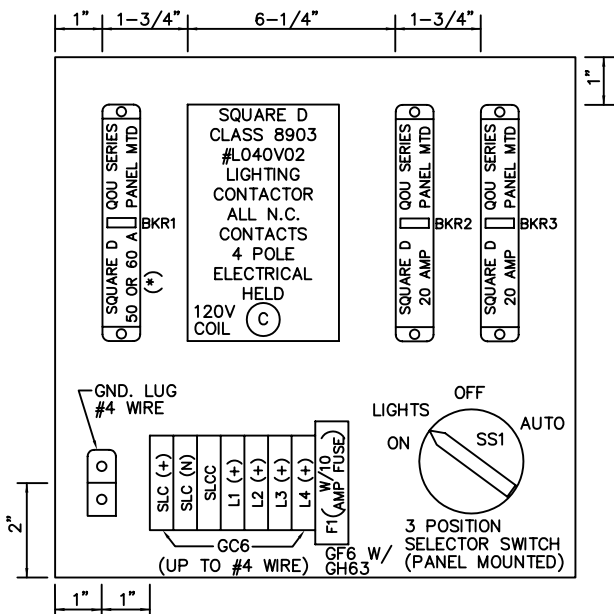
APPROVED: *Steven Bailey* DATE: 3-4-99

S.C.H.	<i>Steve Bailey</i>	9/8/04	UPDATE				
L.M.		9/27/02					
T.E.		3/01/98					
DESIGN	REVISION	DATE	WO #	SCALE	SOURCE	DRAWN	FILE NO.
	APPROVED	11/04/94		-		VGDR	ES-8-1

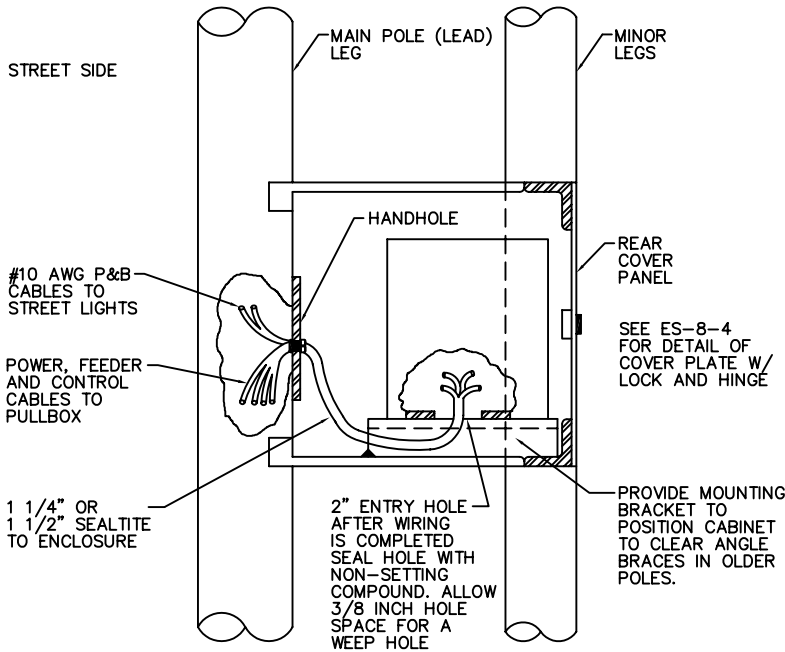
"MP" TYPE LIGHTING CONTROL CABINET

FOR INSTALLATION IN MPL/T POLE LOWER SUPPORT COMPARTMENT  
AND LIGHTING CONTROL OF MPL/T SYSTEMS

LIGHTING CONTROL PANEL LAYOUT



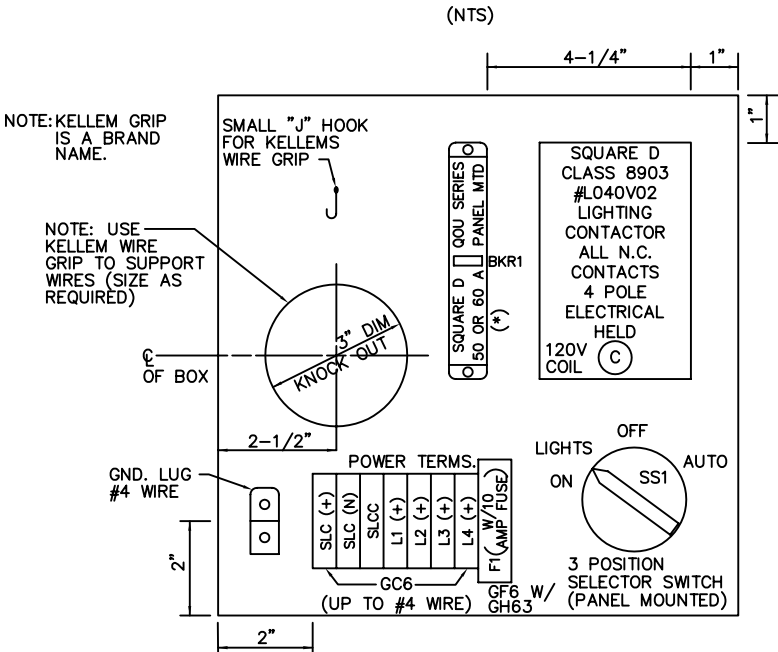
LIGHTING CONTROL CABINET MOUNTING DETAIL



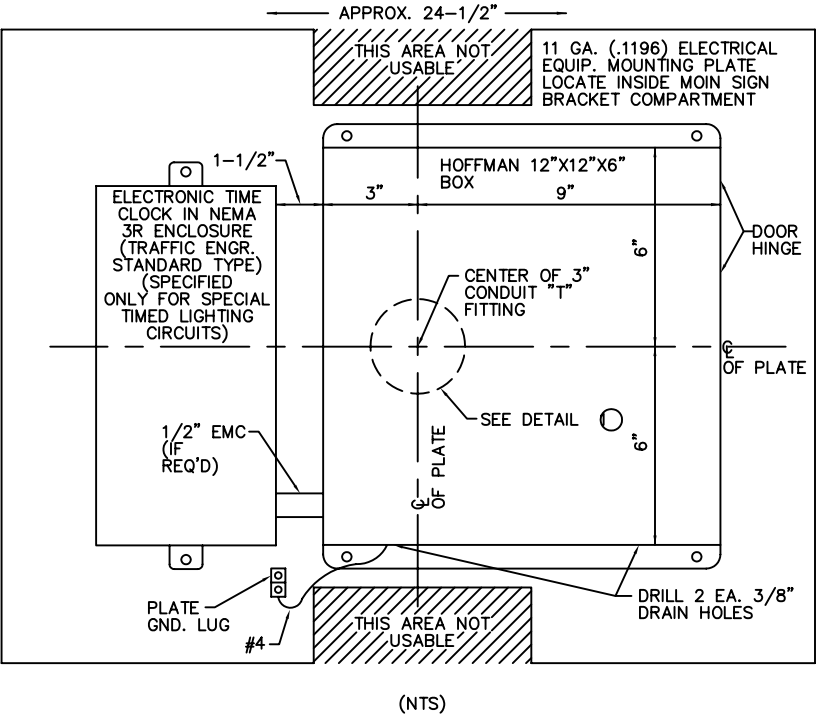
"MO" TYPE LIGHTING CONTROL CABINET

FOR INSTALLATION IN A MOINX POST AND LIGHTING  
CONTROL OF MOL/T SYSTEMS

LIGHTING CONTROL PANEL LAYOUT



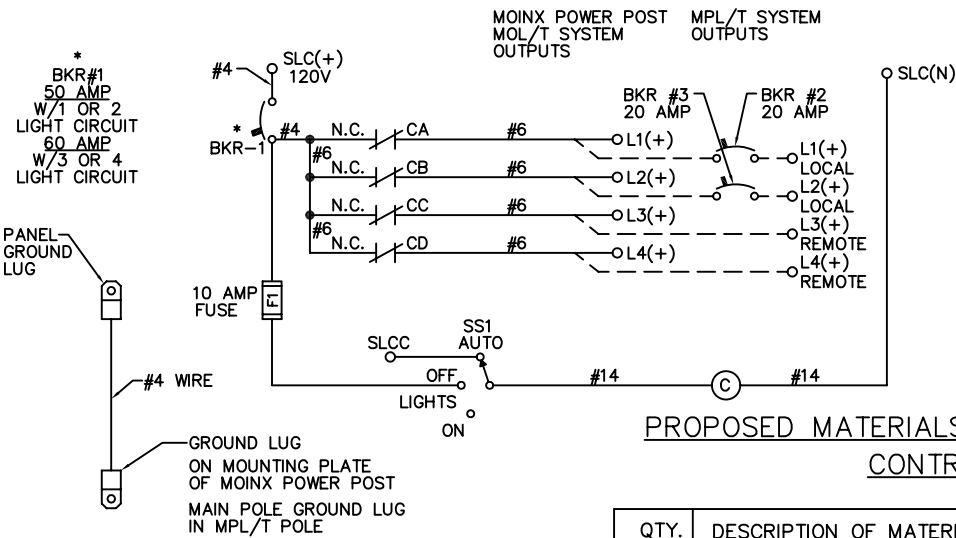
ELECTRICAL EQUIPMENT MOUNTING PLATE LAYOUT



STREET LIGHTING CONTROL

SCHEMATIC

MOINX - MOL/T & MPL/T SYSTEMS



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

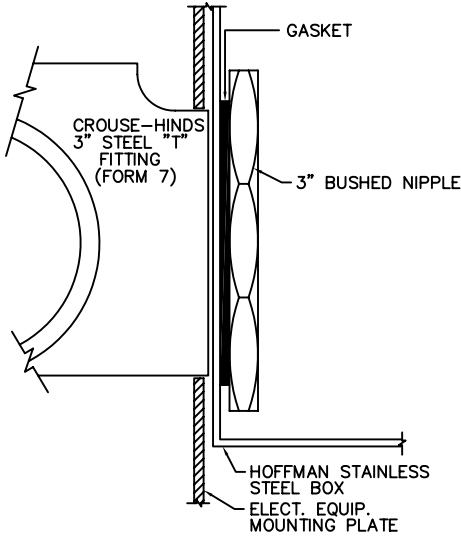
GENERAL NOTES

LIGHTING CONTROL CABINETS AND CIRCUITS FOR BOTH THE "MP" TYPE AND "MO" TYPE ARE THE SAME EXCEPT THAT THE "MP" PANEL AND CIRCUIT INCLUDE TWO 20 AMP CIRCUIT BREAKERS AND THE "MO" PANEL INCLUDES A 3" DIA. KNOCK OUT AND J HOOK IN LIEU OF THE BREAKERS.

PROPOSED MATERIALS FOR STREET LIGHTING CONTROL UNIT

QTY.	DESCRIPTION OF MATERIALS PER UNIT
MATERIALS COMMON TO MOL/T & MPL/T SYSTEMS	
1 EA.	LIGHTING CONTROL CABINET, HOFFMAN #A-1212 CHNFS, STAINLESS STEEL BOX, 12"x12"x6", S.S. HINGED COVER WITH #24 S.S. QUICK RELEASE LATCH WITH HASP MODIFICATION, AND A #A-12P12 STEEL PANEL (WHITE).
1 EA.	C-LIGHTING CONTACTOR, 4 POLE NORMALLY CLOSED, ELECTRICALLY HELD, 30 AMP CONTACT RATING/25 AMP LIGHTING LOAD 120V-60HZ COIL, SQUARE D CLASS 8903 #L040V02.
1 EA.	BKR-1 CIRCUIT BREAKER - 50 AMP WITH 1 OR 2 LIGHT CIRCUIT, 60 AMP WITH 3 OR 4 LIGHT CIRCUIT, 120V, PANEL MOUNTING, SQUARE D QOU SERIES.
1 EA.	SS1 - SELECTOR SWITCH, 3 POSITION, HEAVY DUTY, 10 AMP MIN. CONTACTS, PANEL MOUNTED, WITH LEGEND PLATE. "LIGHTS OFF/ON-AUTO"
7 EA.	POWER TERMINALS - UP TO #4 WIRE, CHANEL MTD., SQUARE D CLASS 9080 #GC6.
1 EA.	F1 - FUSE TERMINAL, SQUARE D CLASS 9080 #GF6 WITH #GH63 FUSE PULLER AND 10 AMP FUSE.
1 EA.	7" TERMINAL MOUNTING CHANEL, SQUARE D CLASS 9080 #GH107.
2 EA.	END TERMINALS SQUARE D CLASS 9080
1 EA.	SET OF MARKER STRIPS FOR TERMINALS.
1 EA.	GROUND LUG FOR #4 GND. WIRE (LIGHTING PANEL)
MATERIALS USED WITH MOINX POWER POST-MOL/T SYS. ONLY	
1 EA.	3" BUSHED NIPPLE WITH GASKET.
1 EA.	SMALL "J" HOOK MTD. TO PANEL, FOR CABLE GRIP LOOP.
1 EA.	CABLE GRIP BY KELLEMS.
1 EA.	GROUND LUG FOR #4 GND. WIRE (MOINX MOUNTING PLATE)
MATERIALS USED WITH MPL/T SYSTEM, ONLY	
2 EA.	BKR2 & BKR3-CIRCUIT BREAKER-20 AMP, 120V, SQUARE D QOU SERIES.

DETAIL 1



MPL / MOL -T SYSTEMS (ES-8)

STREET LIGHTING CONTROL CABINET FOR CBD

CITY OF CINCINNATI  
DEPT. OF TRANSPORTATION & ENGINEERING  
DIV. OF TRAFFIC ENGINEERING

S.C.H.	Stone Bailey	9/15/04	UPDATE	SCALE	SOURCE	DRAWN	FILE NO.
T.E.		3/1/98		APPROVED	Stone Bailey	DATE	3-4-99
DESIGN	REVISION	DATE	WO #	NEW	CDS ASSOCIATES		
JFN	APPROVED	2/24/92					ES-8-8

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		



PLAN NOTES & SYMBOLS

- Ⓜ GROUND ROD    . POLE/POST/CHASSIS GROUND
- Ⓢ STREET LIGHTING CONTACTOR    LIGHTING CONTROL CABINET
- ===== UNDERGROUND CONDUIT (NEW)    - - - - - EXISTING UNDERGROUND CONDUIT
- STEEL POLE OR POST    ● WOOD POLE
- STEEL POLE WITH MAST ARM    ○—→ POLE W/DOWN GUY
- EXISTING STREET LIGHT AND POLE (BY CKT & LAMP NOS.)
- MOL (STREET LIGHTING POLE ONLY) WITH ONE LUMINAIRE
- ▽ MOIN POST, MOINX POWER POST
- NEW STREET LIGHT AND/OR TRAFFIC POLE DESIGNATED AS MOL, MOT, MOLT
- PULLBOX    ○— PARKING METER ON POLE OR POST
- C.G.&E. MANHOLE, NUMBER INDICATED BY BOOK AND SHEET NOS.
- SLC STREET LIGHTING CABLE
- SLCC STREET LIGHTING CONTROL CABLE
- P&BC POLE & BRACKET CABLE (SECONDARY WIRE)
- EG EQUIPMENT GROUND CONDUCTOR
- ⌀ TELEPHONE CO. POLE    ⌀ C.G.&E. ELECTRIC POWER POLE

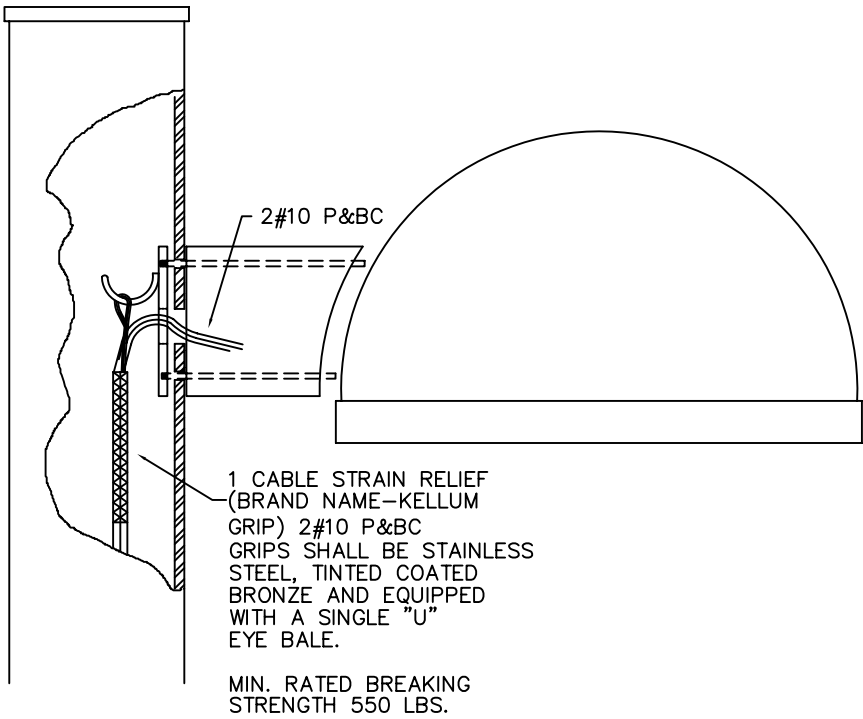
NOTE:  
60 AMP. IN-LINE FUSE KITS SHOULD BE INSTALLED IN THE FIRST CITY OWNED PULLBOX WHERE C.G.&E. SERVICE WIRE ENTERS TO FEED ANY CITY POWER POST OR CBD STREET LIGHT CONTROLLER.

FUSES  
ALL FUSES 200,000 A.I.C. CURRENT LIMITING  
FUSES FOR LIGHTING CONNECTOR KITS:  
15 AMP UL CLASS CC  
FUSES FOR CONTROL LINE, MAIN SERVICE & LIGHTING CABINET:  
(SIZE PER PLAN)  
UL CLASS RK5 DUAL ELEMENT  
TIME DELAY

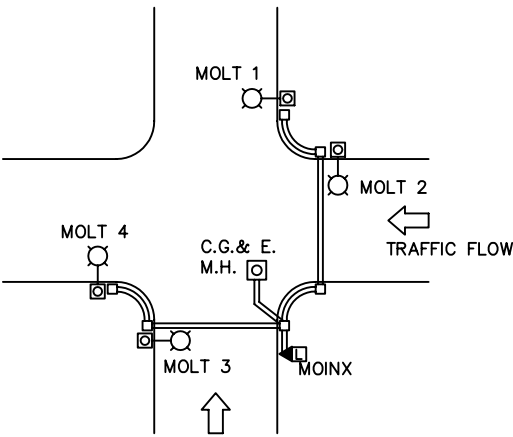


MOL -T SYSTEMS (ES-8)			
STREET LIGHTING & ELECTRICAL DETAILS			
CITY OF CINCINNATI DEPT. OF TRANSPORTATION & ENGINEERING DIV. OF TRAFFIC ENGINEERING			
APPROVED <i>Steve Bailey</i>		DATE 3-4-99	
SCALE	SOURCE	DRAWN	FILE NO.
NA	REV. ES-8-7 10/10/88	CDS ASSOCIATES	ES-8-7B

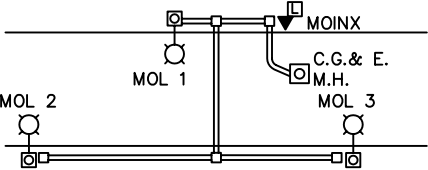
S.C.H.	<i>Steve Bailey</i>	9/15/04	UPDATE
T.E.		3/1/98	
DESIGN	REVISION	DATE	WO #
R.R.R.	APPROVED	2/24/92	



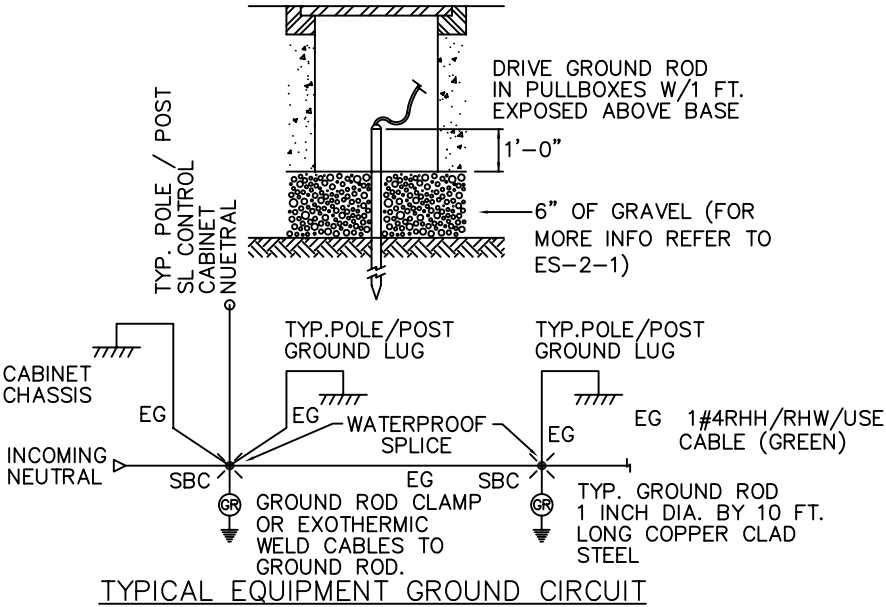
TYPICAL DOWNTOWN  
FIXTURE MOUNTING



TYP. INTERSECTION LIGHTING CIRCUIT



TYP. MID BLOCK LIGHTING CIRCUIT



TYPICAL EQUIPMENT GROUND CIRCUIT

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

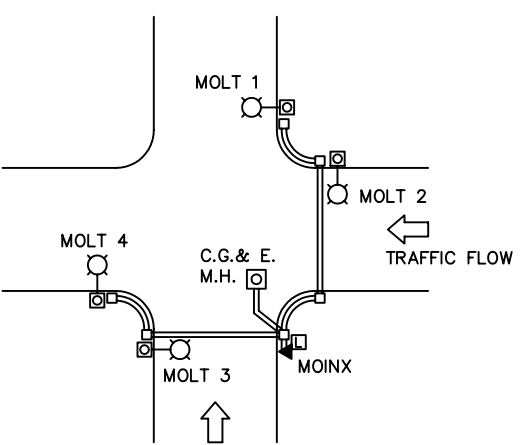


# PLAN NOTES & SYMBOLS

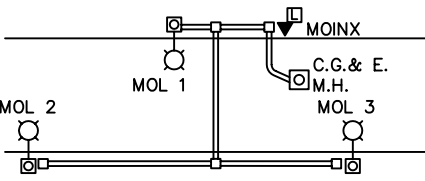
- ⊕ GROUND ROD
- ⊙ STREET LIGHTING CONTACTOR
- ⊞ EXTERNAL BALLAST FOR STREET LIGHTING
- UNDERGROUND CONDUIT (NEW) - - - EXISTING UNDERGROUND CONDUIT
- STEEL POLE OR POST
- WOOD POLE
- STEEL POLE WITH MAST ARM
- POLE W/DOWN GUY
- ☀ EXISTING STREET LIGHT AND POLE (BY CKT & LAMP NOS.)
- ⊞ NEW STREET LIGHTING AND/OR TRAFFIC POLE DESIGNATE AS MPL, MPT OR MPLT
- ⊞ MOL (STREET LIGHTING POLE ONLY) WITH ONE LUMINAIRE
- ⊞ MPL (STREET LIGHTING POLE ONLY) WITH TWO LUMINAIRES
- ⊞ STREET LIGHT OR TRAFFIC POLE WITH TRAFFIC BOOM, NUMBER BAYS AS SHOWN MPLT OR MOLT
- ▽ MPIN POST, ▽ MOIN POST, ▽ MOINX POWER POST
- ⊞ NEW STREET LIGHT AND/OR TRAFFIC POLE DESIGNATED AS MOL, MOT, MOLT
- PULLBOX
- PARKING METER ON POLE OR POST
- ⊞ C.G.&E. MANHOLE, NUMBER INDICATED BY BOOK AND SHEET NOS.
- ⊞ ⊞ TYPICAL EQUIP. TO BE REMOVED (SHOWN WITH DASHES)
- SLC STREET LIGHTING CABLE
- SLCC STREET LIGHTING CONTROL CABLE
- P&BC POLE & BRACKET CABLE (SECONDARY WIRE)
- EG EQUIPMENT GROUND CONDUCTOR
- ⊕ TELEPHONE CO. POLE ⊕ C.G.&E. ELECTRIC POWER POLE

NOTE:  
60 AMP. IN-LINE FUSE KITS SHOULD BE INSTALLED IN THE FIRST CITY OWNED PULLBOX WHERE C.G.&E. SERVICE WIRE ENTERS TO FEED ANY CITY POWER POST OR CBD STREET LIGHT CONTROLLER.

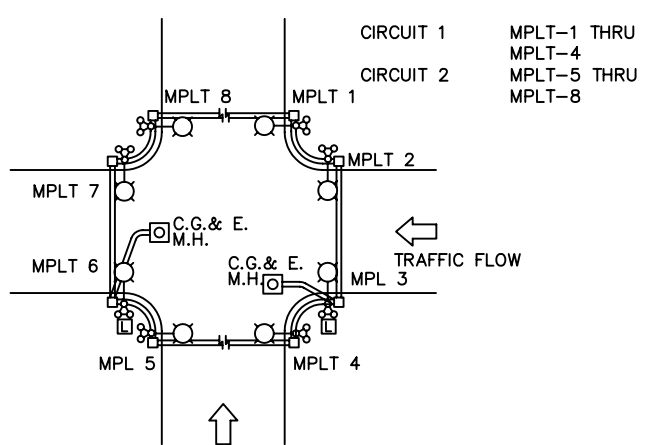
FUSES  
ALL FUSES 200,000 A.I.C. CURRENT LIMITING FUSES FOR LIGHTING CONNECTOR KITS:  
15 AMP UL CLASS CC  
FUSES FOR CONTROL LINE, MAIN SERVICE & LIGHTING CABINET:  
(SIZE PER PLAN)  
UL CLASS RK5 DUAL ELEMENT  
TIME DELAY



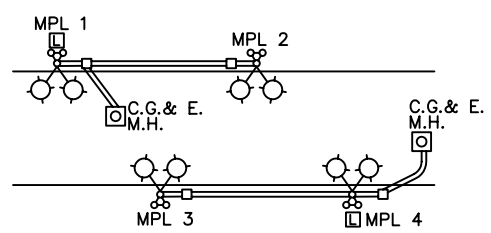
TYP. INTERSECTION LIGHTING CIRCUIT



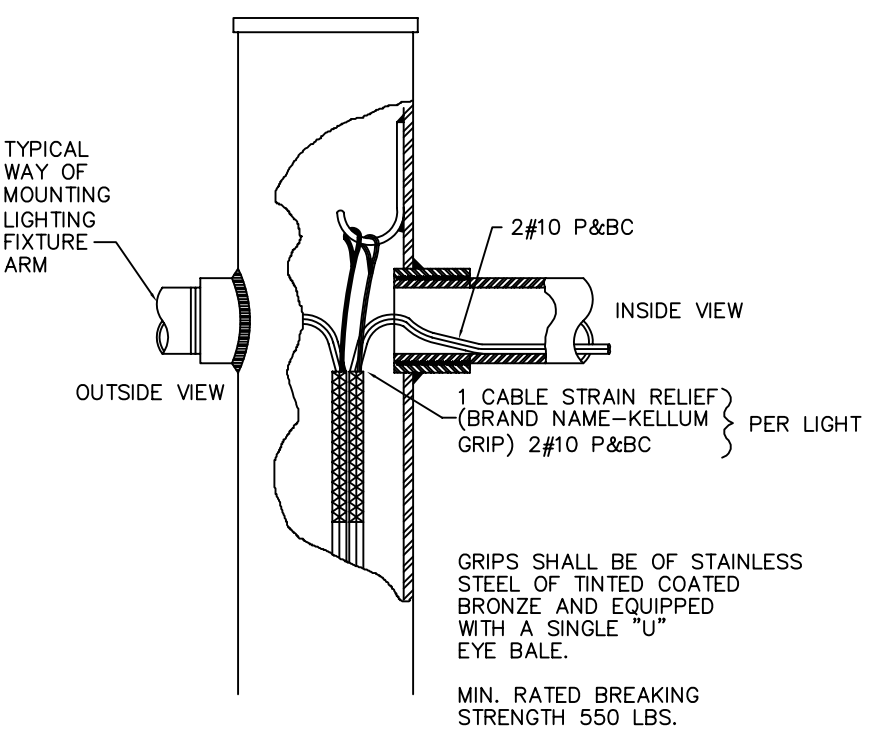
TYP. MID BLOCK LIGHTING CIRCUIT  
TYP. MOL LIGHTING SYSTEM



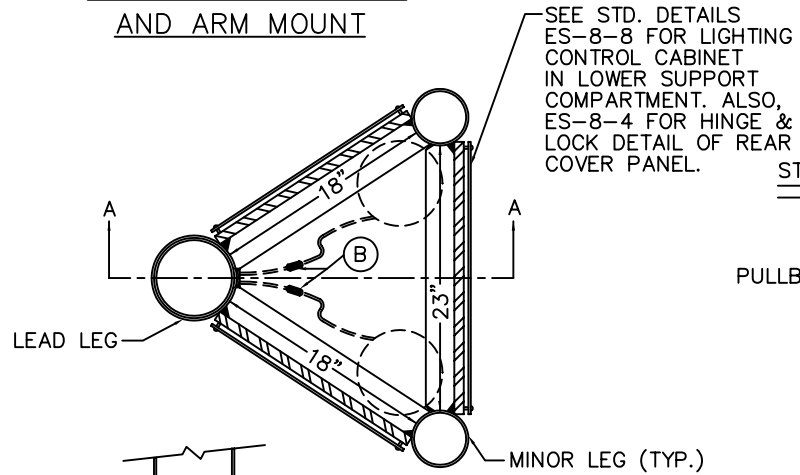
TYP. INTERSECTION LIGHTING CIRCUITS



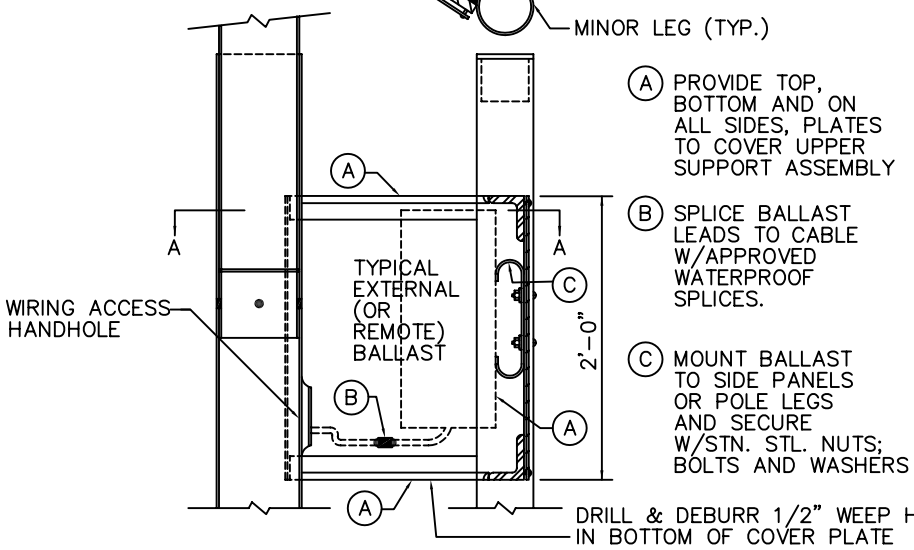
TYP. MID BLOCK LIGHTING CIRCUITS  
TYP. MPL SYSTEM LIGHTING



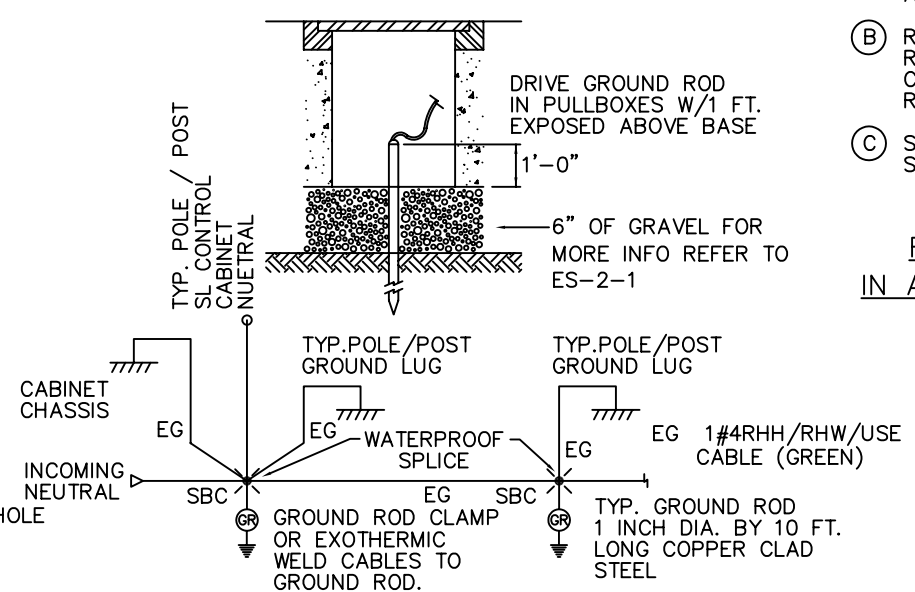
TYPICAL-CABLE  
SUPPORT ASSEMBLIES  
AND ARM MOUNT



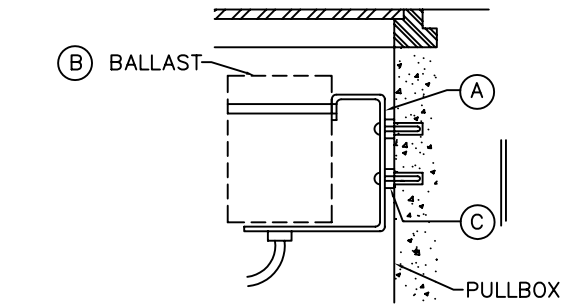
TYPICAL MPL/T POLE CONDUIT ARRANGEMENT  
FOR TRAFFIC SIGNALS AND CONTROL



REMOTE BALLAST INSTALLATION  
IN UPPER SUPPORT COMPARTMENT (MPLT POLE)



TYPICAL EQUIPMENT GROUND CIRCUIT



- (A) PROVIDE 1/4" SPACE BETWEEN WALL OF PULLBOX AND BALLAST MOUNTING BRACKET.
- (B) REVIEW PROPOSED LOCATIONS OF BALLASTS WITH RESPECT TO DUCTS AND SPACE FROM PULLBOX COVER TO TOP OF BALLAST WITH CITY'S REPRESENTATIVE PRIOR TO INSTALLATION.
- (C) SECURE BALLAST TO WALL OF PULLBOX WITH STAINLESS STL. SCREW ANCHORS.

REMOTE BALLAST INSTALLATION  
IN ADJACENT PULL BOX (MOL/T POLE)



OLD SPAULDING			
MPL / MOL -T SYSTEMS (ES-8)			
STREET LIGHTING & ELECTRICAL DETAILS			
CITY OF CINCINNATI DEPT. OF TRANSPORTATION & ENGINEERING DIV. OF TRAFFIC ENGINEERING			
S.C.H.	Stone Bailey	9/15/04	UPDATE
T.E.		3/1/98	
DESIGN	REVISION	DATE	WO #
R.R.R.	APPROVED	2/24/92	
SCALE	SOURCE	DRAWN	FILE NO.
NA	REV. ES-8-7 10/10/88	CDS ASSOCIATES	ES-8-7A

APPROVED: *Stone Bailey* DATE: 3-4-99

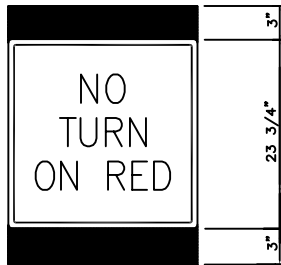
REFLECTORIZED SIGN  
BLACK BORDER & LEGEND  
WHITE (REFL.) BACKGROUND

SPECIAL 24"x30" (NOMINAL)  
ILLUMINATED SIGN FACE

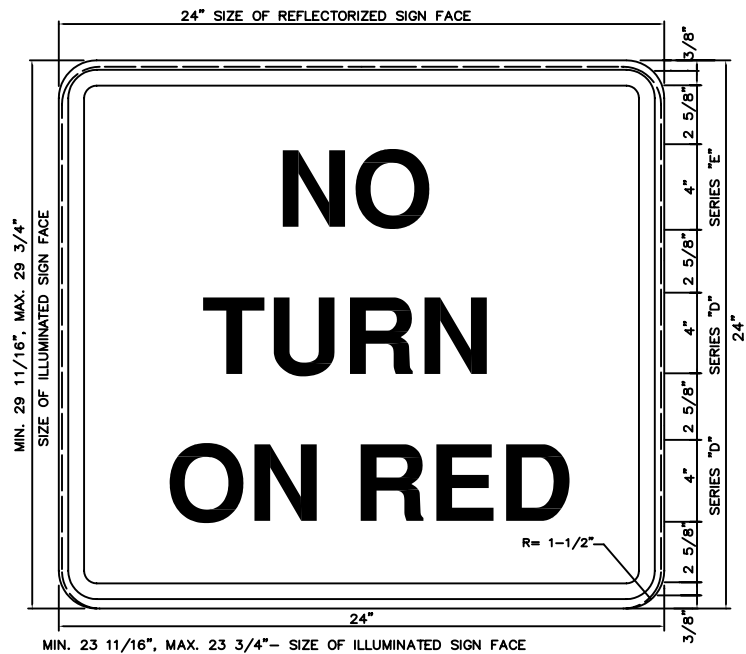
1/4" NARROWER THAN 24" REFL. SIGN  
5 3/4" HIGHER THAN 24" REFL. SIGN  
OMIT BORDER, EXCEPT  
TOP 3" ABOVE DOTTED LINE  
AND BOTTOM 3" BELOW BOTTOM LINE  
IS BLACK

BLACK LETTERS  
WHITE BACKGROUND

ALL DIMENSIONS SAME AS FOR 24"  
SQUARE SIGN, EXCEPT FOR HEIGHT.



SPECIAL 24"x 30" (NOMINAL)  
ILLUMINATED SIGN FACE

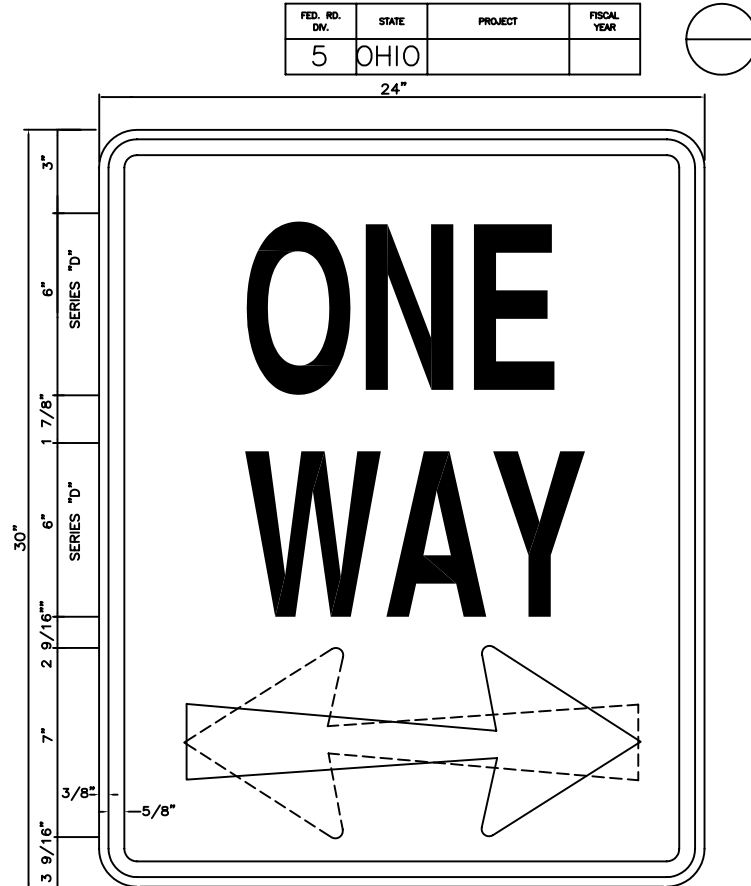


(L) CITY # 117



ILLUMINATED SIGN  
BLACK LEGEND  
WHITE BACKGROUND

(C) CITY # 114



BLACK SYMBOL & LEGEND  
WHITE BACKGROUND

CITY # 92 A,C

(A) (B)

\* REFERS TO CODE LETTER OF DWG. ES-8-2

CITY SIGN CODE DESIGNATION

A RIGHT  
B THROUGH  
C LEFT

CORNER RADII - 1 1/2" FOR ALL FACES.

REFER TO CITY OF CINCINNATI SUPPLEMENTAL  
SPECIFICATION TO O.D.O.T. CONSTRUCTION AND  
MATERIAL SPECIFICATIONS ITEM 1329.01  
FOR SIGN FACE REQUIREMENTS.



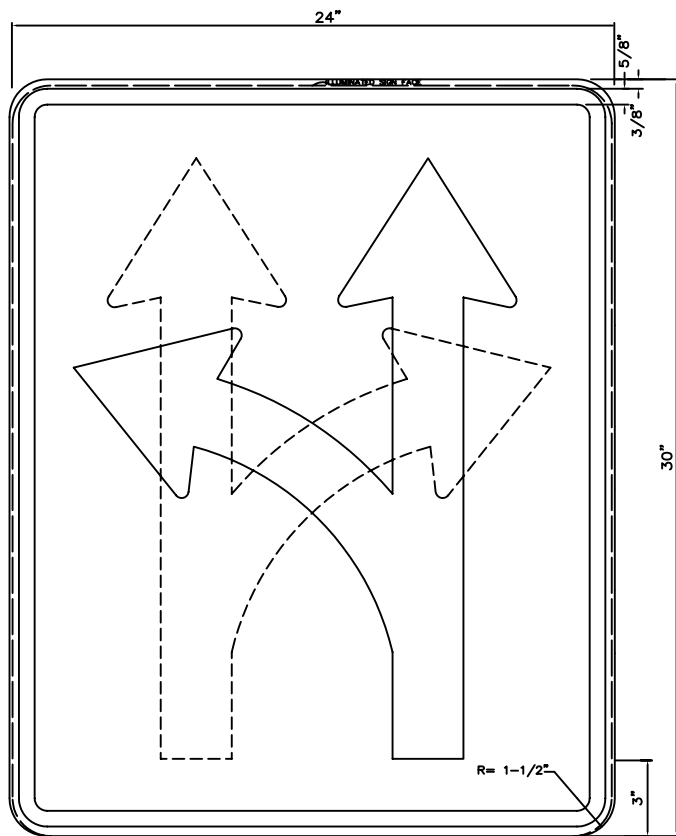
MPL /MOL -T SYSTEMS (ES-8)

TYPICAL TRAFFIC CONTROL  
SIGN LEGEND DETAILS

CITY OF CINCINNATI  
DEPT. OF TRANSPORTATION & ENGINEERING  
DIV. OF TRAFFIC ENGINEERING

APPROVED: *Steve Bailey* DATE: 3-4-99

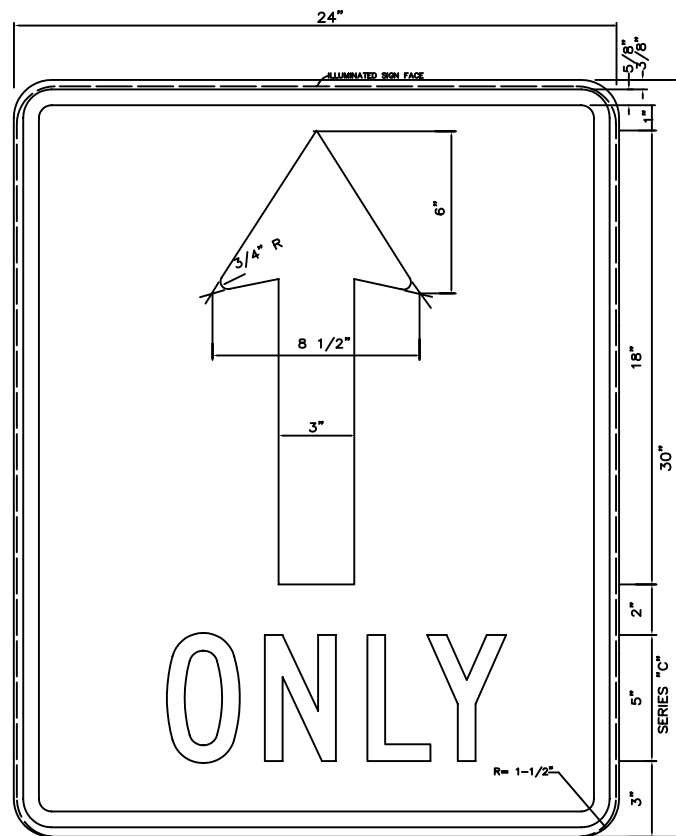
SCALE	SOURCE	DRAWN	FILE NO.
N.T.S.		J.C.A.	ES - 8 - 6



ILLUMINATED SIGN FACE  
ILLUM. SIGN FACE 1/4" SMALLER THAN REFL. BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
OMIT BORDER  
BLACK SYMBOL & LEGEND  
WHITE BACKGROUND

REFLECTORIZED SIGN FACE  
BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
WHITE(REFL.) BACKGROUND

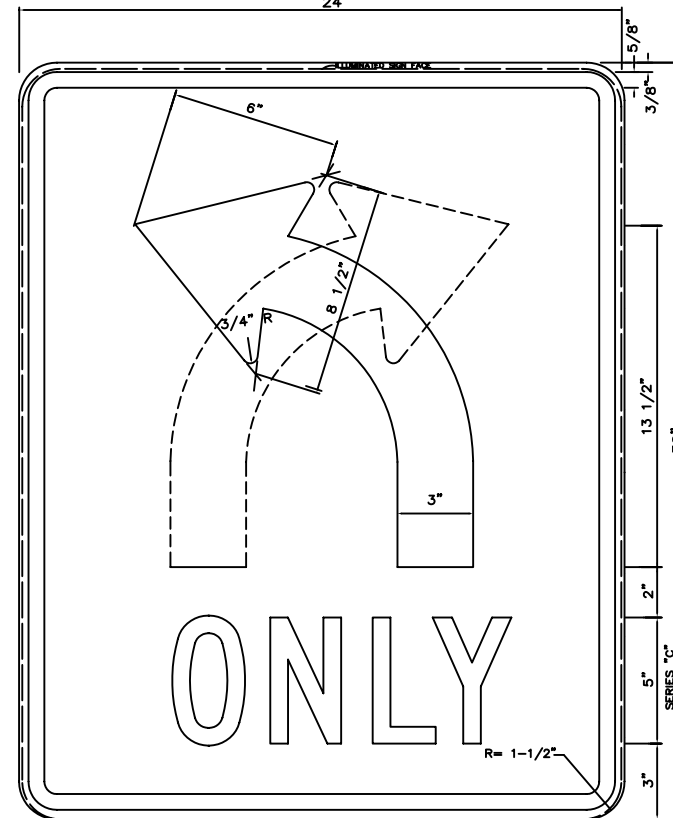
(E) (G) CITY # 79 BA & BC



ILLUMINATED SIGN FACE  
ILLUM. SIGN FACE 1/4" SMALLER THAN REFL. BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
OMIT BORDER  
BLACK SYMBOL & LEGEND  
WHITE BACKGROUND

REFLECTORIZED SIGN FACE  
BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
WHITE(REFL.) BACKGROUND

(F) CITY # 79 B



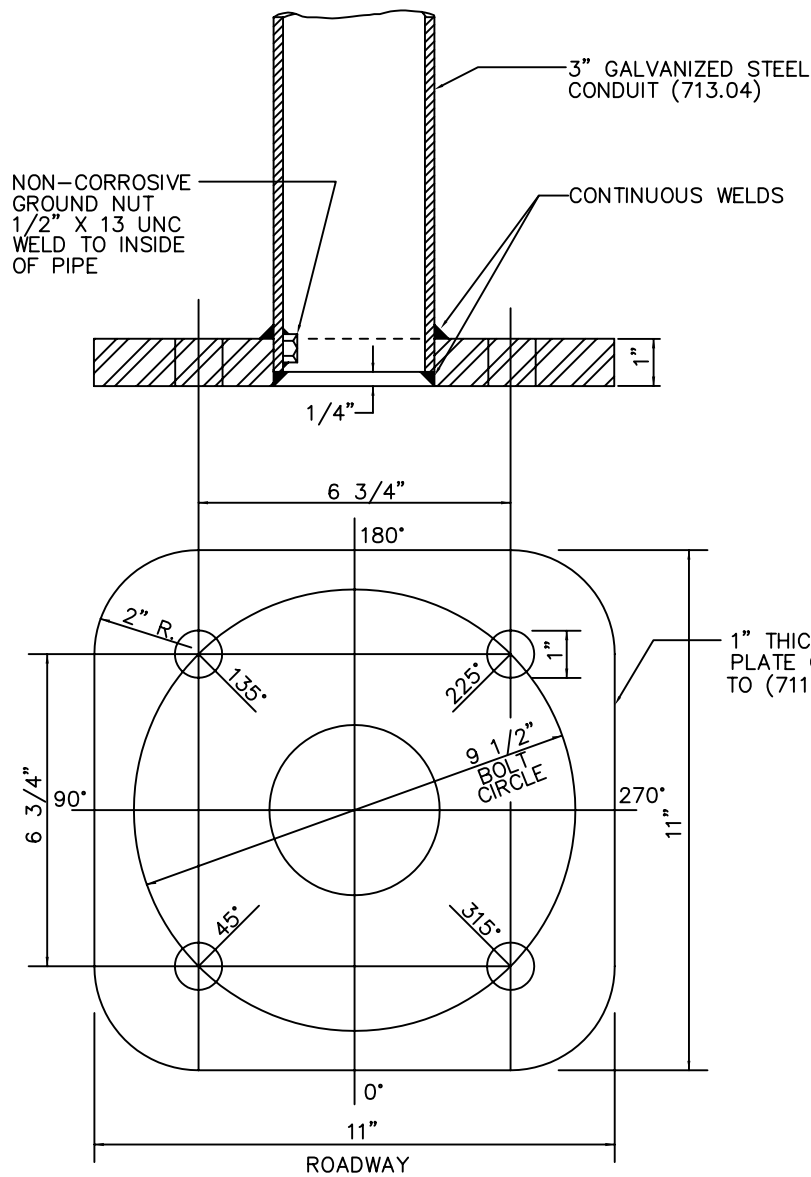
ILLUMINATED SIGN FACE  
ILLUM. SIGN FACE 1/4" SMALLER THAN REFL. BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
OMIT BORDER  
BLACK SYMBOL & LEGEND  
WHITE BACKGROUND

REFLECTORIZED SIGN FACE  
BLACK(NON-REFL.) SYMBOL, LEGEND & BORDER  
WHITE(REFL.) BACKGROUND

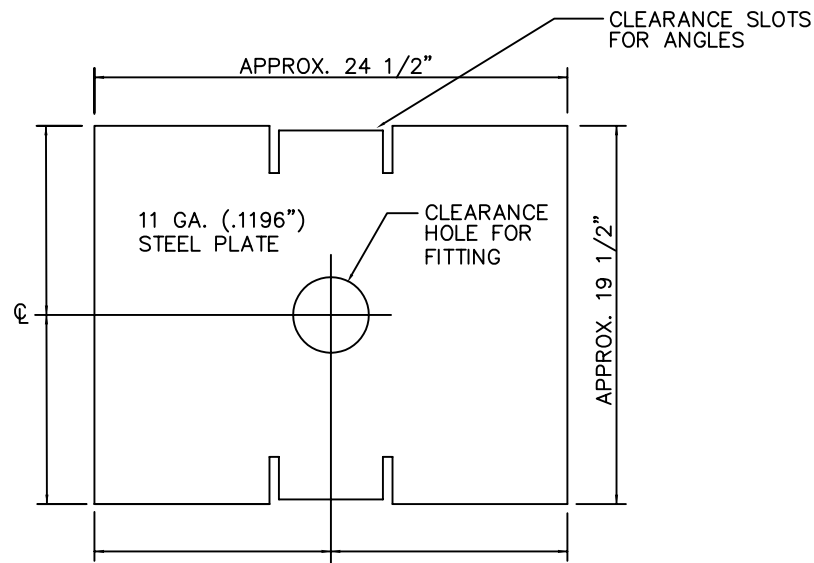
CITY # 79 A,C (D) (H)

S.C.H.	<i>Steve Bailey</i>	9/13/04	UPDATE
T.E.		3-1-98	
R.R.R.		7-10-87	
DESIGN	REVISION	DATE	WO #
R.R.R.	APPROVED	3-13-80	

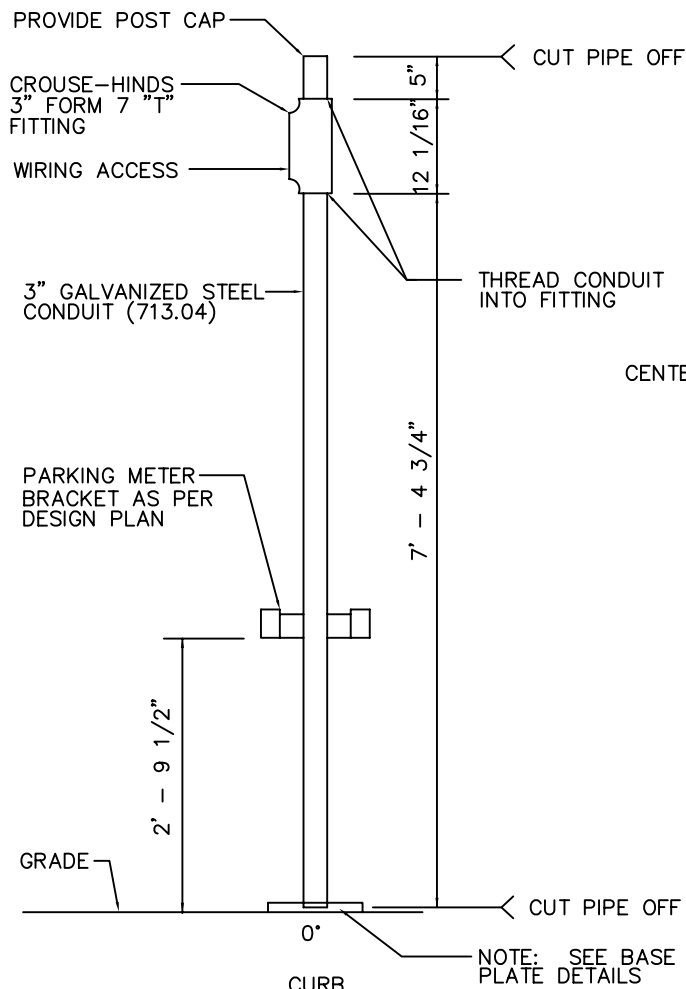




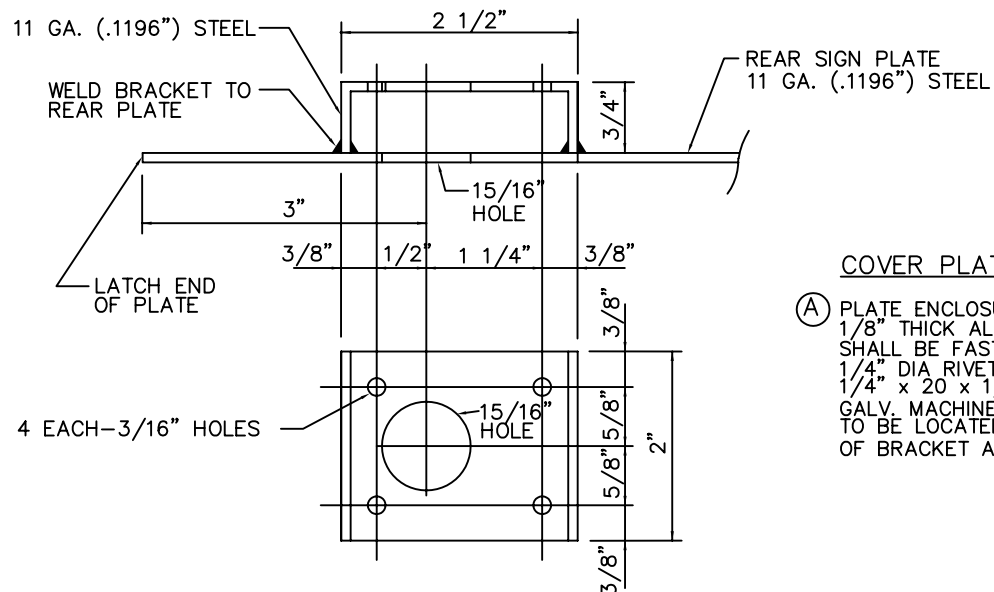
ANCHOR BASE DETAIL



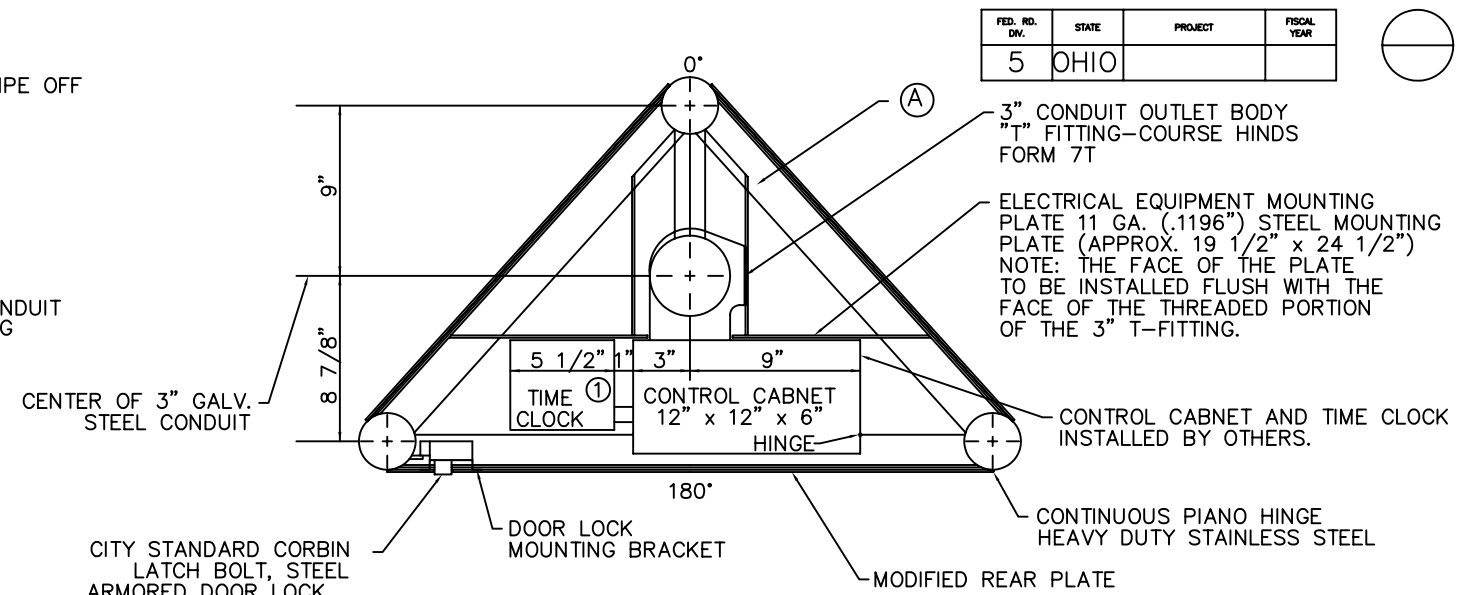
ELECTRICAL EQUIPMENT MOUNTING PLATE DETAIL



MODIFIED CENTER POST DETAIL



DOOR LATCH MOUNTING BRACKET DETAIL

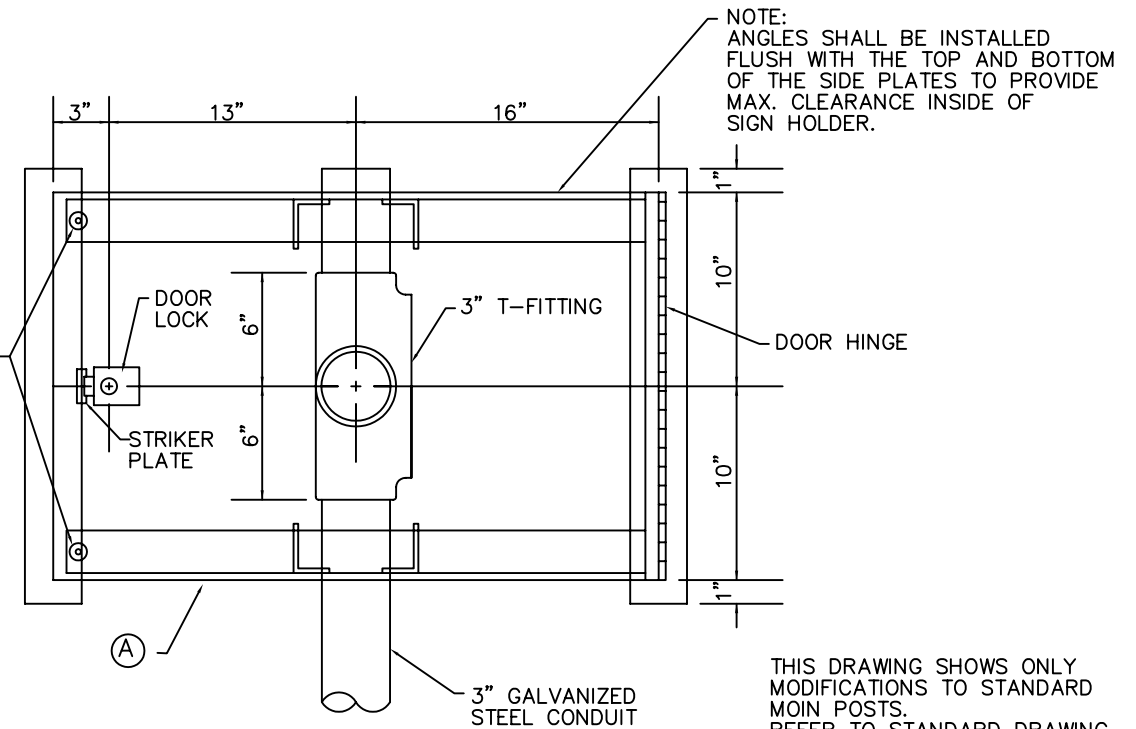


MODIFICATIONS TO SECTION A-A

① INSTALL TIME CLOCK WHERE SPECIFIED

CITY STANDARD CORBIN LATCH BOLT, STEEL ARMORED DOOR LOCK, SELF LOCKING, WITH DUST COVER. KEY TO CITY STANDARD IR6380

NEOPRENE DOOR CUSHIONS MOUNTED TO ANGLES



REAR VIEW

COVER PLATES

① PLATE ENCLOSURE TOP AND BOTTOM WITH 1/8 inch THICK ALUMINUM. COVER PLATES SHALL BE FASTENED USING APPROPRIATE 1/4 inch DIA RIVETS OR DRILL AND TAP FOR 1/4 inch x 20 x 1/2 inch STAINLESS STEEL OR GALV. MACHINE SCREW. FASTENERS ARE TO BE LOCATED APPROX. 3 inch FROM POLE END OF BRACKET AND NEAR CENTER, 3 PER SIDE.



MPL / MOL -T SYSTEMS (ES-8)

MOINX POWER POST (MODIFIED MOIN POST)

CITY OF CINCINNATI  
DEPT. OF TRANSPORTATION & ENGINEERING  
DIV. OF TRAFFIC ENGINEERING

APPROVED: *Steve Bailey* DATE: 3-4-99

DESIGN	REVISION	DATE	WO #	SCALE	SOURCE	DRAWN	FILE NO.
J.F.N.	APPROVED	7/17/91			NEW	CDS ASSOCIATES	ES-8-4
S.C.H.	<i>Steve Bailey</i>	9/14/04	UPDATE				
T.E.		3/1/98					

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		



### GENERAL NOTES:

THE CITY SHALL FURNISH TRAFFIC SIGNAL CONTROLLER(S) COMLETE WITH CABINET AND ALL INTERNAL TIMINGS SET UP, AND THE CONTRACTOR SHALL INSTALL THE UNIT(S) ON THE SPECIFIED POLE(S). THE CONTRACTOR SHALL PROVIDE ANY NECESSARY MOUNTING HARDWARE AND INCIDENTALS AND SHALL COMPLETE ALL FIELD WIRING TO PROVIDE A COMPLETE OPERATING SIGNAL SYSTEM ACCEPTED BY THE CITY.

CONTROLLERS SPECIFIED TO BE FURNISHED BY THE CITY OF CINCINNATI FOR INSTALLATION BY THE CONTRACTOR SHALL BE PROVIDED UPON SIXTY (60) DAYS ADVANCE WRITTEN NOTICE TO BOTH THE ENGINEER AND THE CITY TRAFFIC ENGINEER.

CONTROLLERS FURNISHED TO CONTRACTOR BY THE CITY OF CINCINNATI SHALL BE INSTALLED AND PLACED IN OPERATION WITHIN SEVEN (7) DAYS AFTER PROCUREMENT OF THE EQUIPMENT FROM THE CITY. THE CITY SHALL DELAY THE FURNISHING OF CONTROL EQUIPMENT TO THE CONTRACTOR FOR ANY LOCATIONS THAT ARE NOT COMPLETE AND READY TO OPERATE.

CONTROLLERS (INCLUDING ANY SPECIFIED ACCESSORY EQUIPMENT) AND ANY NECESSARY WIRING DATA WILL BE AVAILABLE AT THE BUREAU OF TRAFFIC SERVICES, 2141 STATE AVENUE, CINCINNATI OHIO 45214.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CITY FURNISHED EQUIPMENT WHILE IN HIS/HER CUSTODY.

**CONTROLLER INSTALLATION**  
NOTIFY THE TRAFFIC ENGINEERING DIVISION (352-3712) PRIOR TO CONTROLLER INSTALLATION.

**HARDWARE (FURNISHED BY CONTRACTOR)**  
4" GALVANIZED NIPPLES & FITTINGS- SCHEDULE 40 PIPE.  
4" BUSHINGS & LOCKNUTS-MINIMUM 1/2" THICK & GALVANIZED.  
1 1/2" NIPPLES FOR PEDESTRIAN SIGNAL.  
INSTALLATION- GALVANIZED SCHEDULE 40 STL. OR ALUMINUM USING 1/2" THICK ALUMINUM LOCKNUTS.  
1 1/2" HUBS- GALVANIZED OR MALLEABLE IRON.

**HANDHOLE**  
HANDHOLE ORIENTATION SHALL BE SPECIFIED WITH FABRICATION OF MOL/T POLE.

**PAINTING**  
THE TRAFFIC SIGNAL CONTROLLER CABINET MOUNTING HARDWARE AND PEDESTRIAN SIGNAL BRACKETS INCLUDING SIGNAL HARDWARE SHALL BE PAINTED.

NOTE: THE CONTROLLER ITSELF, IS NOT TO BE PAINTED.

PAINT SHALL BE CITY OF CINCINNATI BEIGE. ANY RUST, SCRAPES OR BARE METAL SHALL BE SPOT PRIMED WITH THE APPROVED PRIMER.

**CONTROLLER MOUNTING BRACKETS**  
THE CONTROLLER CABINET MAY BE FURNISHED WITH MOUNTING BRACKETS FASTENED TO THE CABINET OR WITH PREDRILLED HOLES, IN WHICH CASE THE CONTRACTOR SHALL MOUNT THE BRACKETS TO THE BACK OF THE CABINET. BRACKETS SHALL BE FURNISHED BY THE CITY.

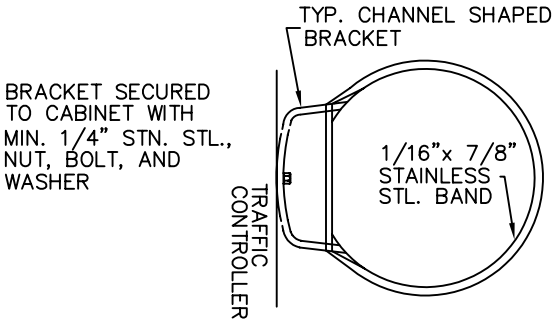


MPL / MOL - T SYSTEMS (ES-8)			
TYPICAL PEDESTRIAN SIGNAL AND CONTROLLER CABINET INSTALLATION FOR MOL/T POLES			

CITY OF CINCINNATI DEPT. OF TRANSPORTATION & ENGINEERING DIV. OF TRAFFIC ENGINEERING			
--	--	--	--

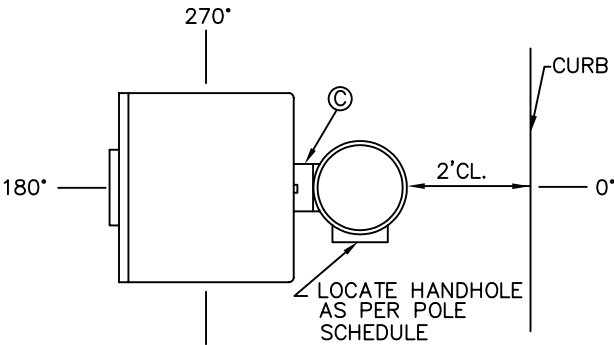
S.C.H.	Stone Bailey	9/13/04	UPDATE
T.E.		3/1/98	

DESIGN	REVISION APPROVED	DATE 11/16/94	WO #	SCALE -	SOURCE	DRAWN VGRD	FILE NO. ES-8-3B
--------	----------------------	------------------	------	------------	--------	---------------	---------------------

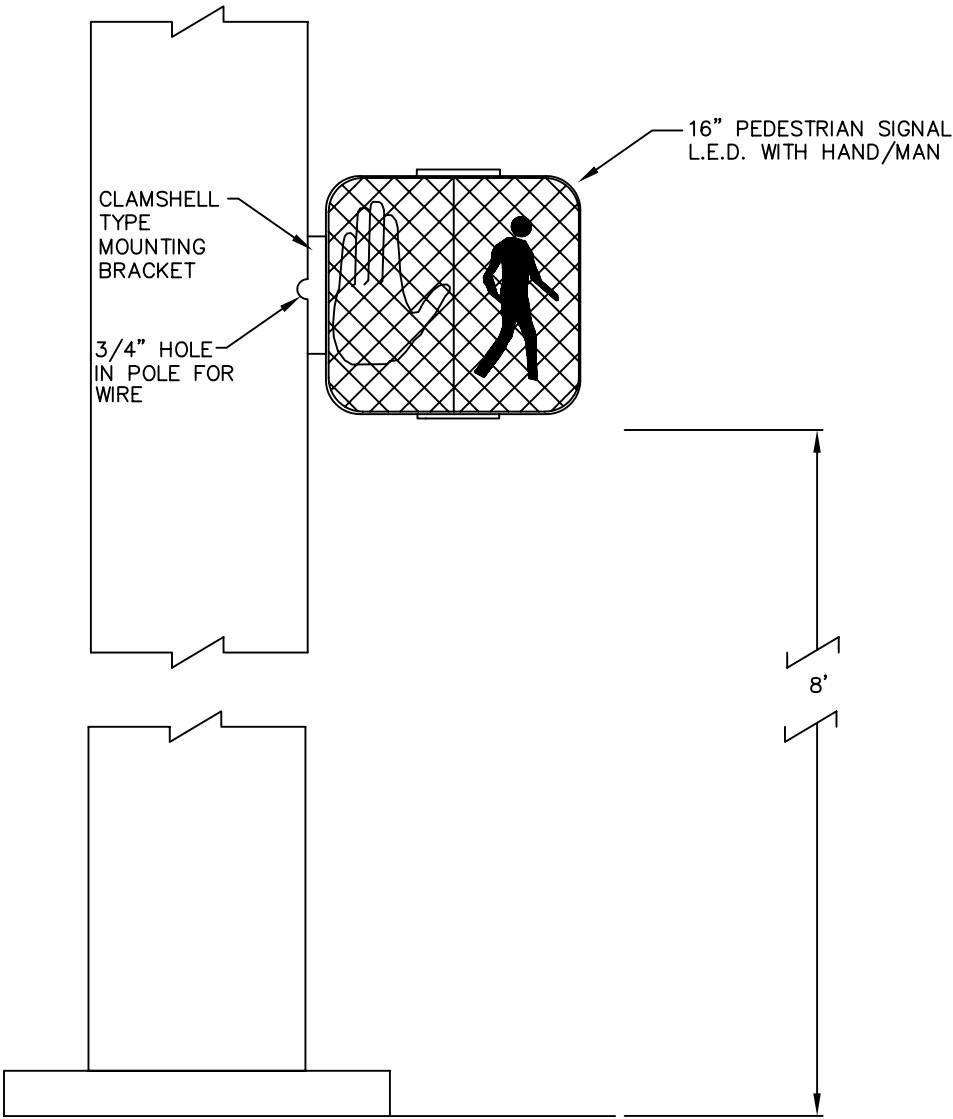


© CABINET MOUNTING BRACKET DETAIL

INSTALLATION OF A TRAFFIC SIGNAL CONTROLLER USING MOUNTING BRACKETS SECURED TO THE BACK OF THE CABINET AND FASTENED TO THE POLE WITH 1/16"x 7/8" STAINLESS STEEL BANDS.

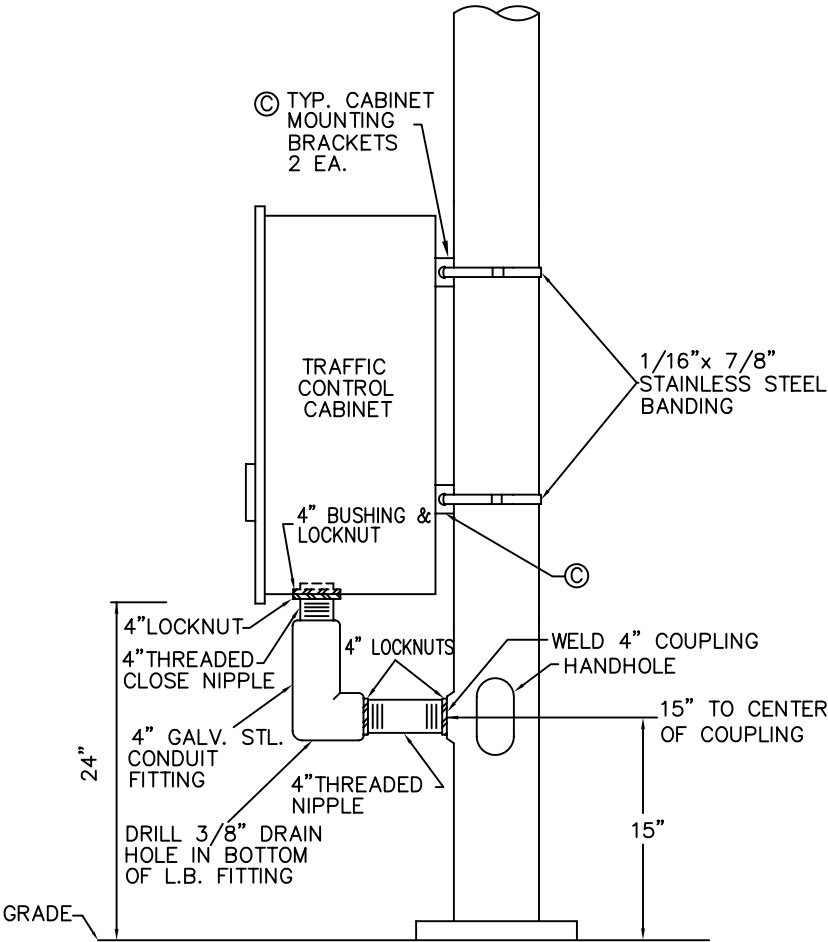


TOP VIEW



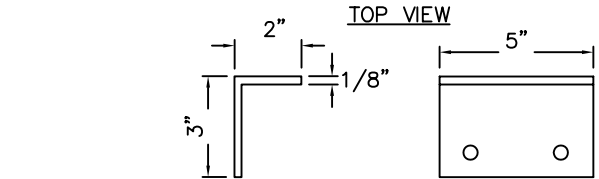
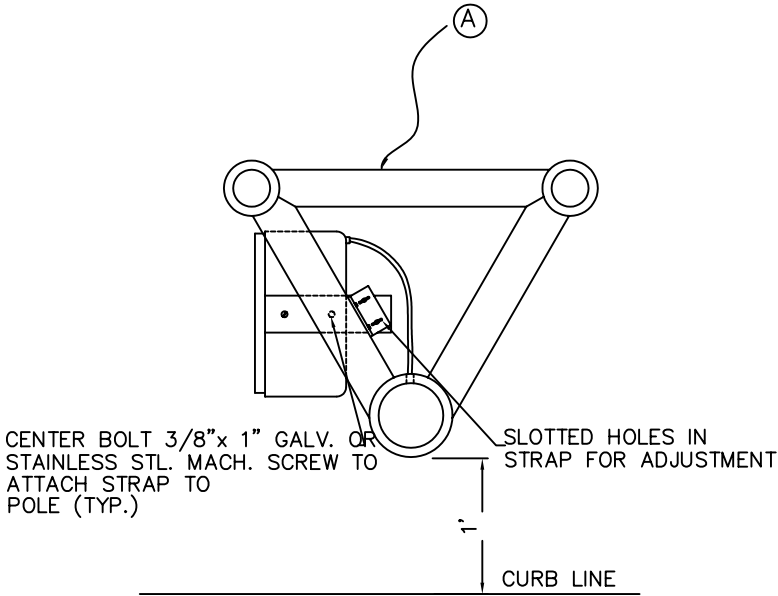
PEDESTRIAN SIGNAL  
INSTALLATION

FOR MORE DETAILS  
REFER TO ES-3-6



TRAFFIC CONTROL  
CABINET INSTALLATION





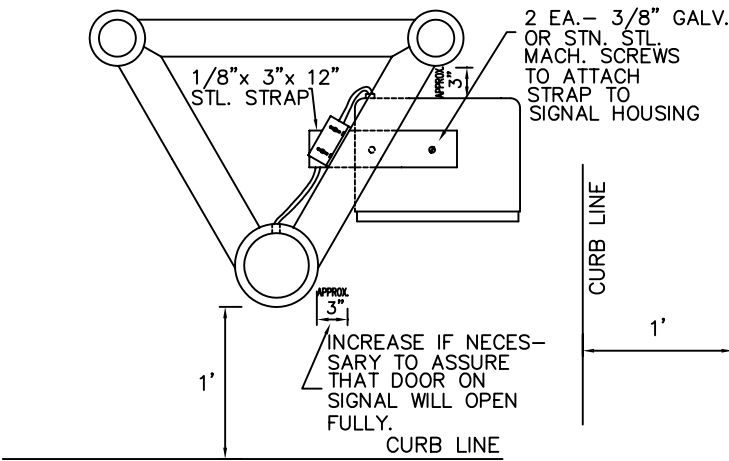
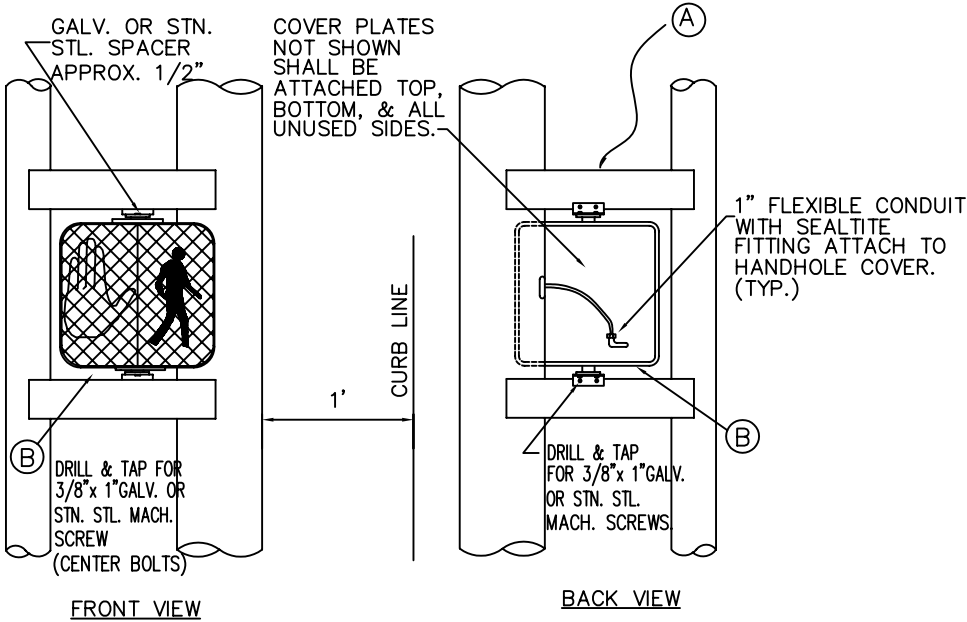
BRACKET DETAIL

PEDESTRIAN SIGNALS  
PARALLEL TO CURB

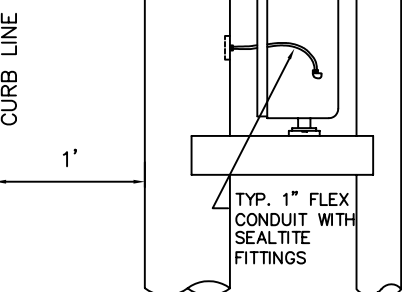
NOTES  
SIGNAL SHOULD BE AS CLOSE TO THE  
LEAD TUBE AS PRACTICAL, BUT SHALL  
BE FAR ENOUGH AWAY THAT THE DOOR  
WILL OPEN FULLY FOR ACCESS TO THE  
LAMPS AND WIRING.

COVER PLATES

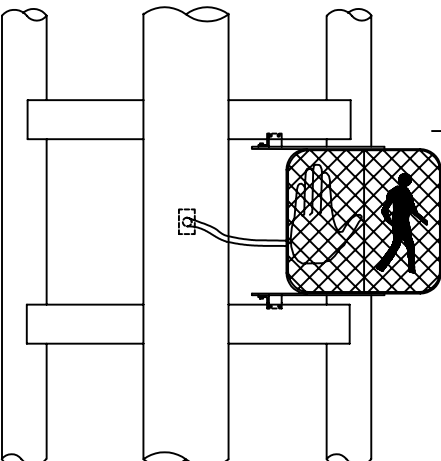
(A) PLATE ENCLOSURE TOP AND BOTTOM WITH  
1/8" THICK ALUMINUM. COVER PLATES  
SHALL BE FASTENED USING APPROPRIATE  
1/4" DIA RIVETS OR DRILL AND TAP FOR  
1/4" x 20 x 1/2" STAINLESS STEEL BOLTS.  
FASTENERS ARE TO BE LOCATED APPROX. 3"  
FROM POLE END OF BRACKET AND NEAR  
CENTER, 3 PER SIDE.



TOP VIEW

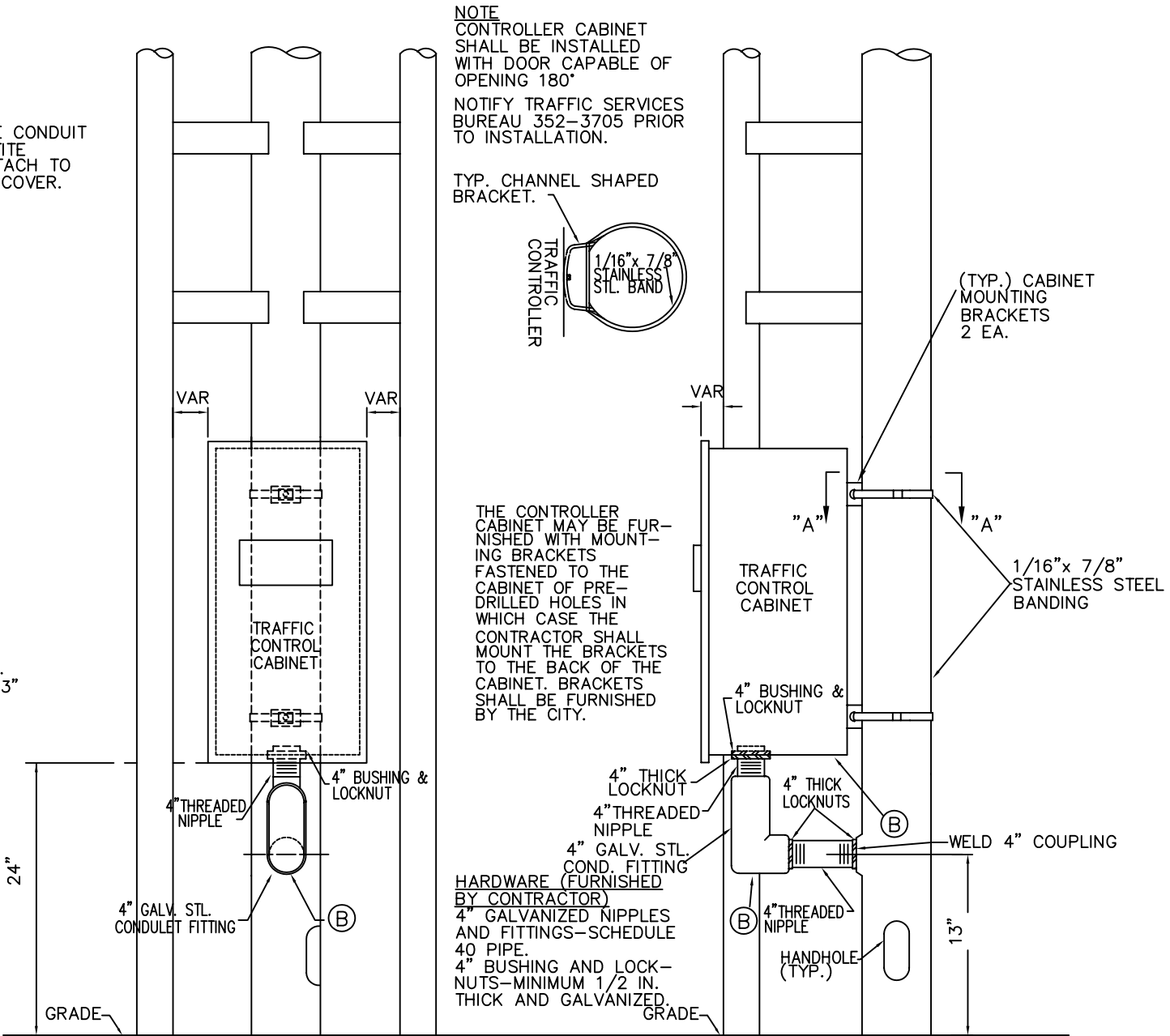


SIDE VIEW



FRONT VIEW

PEDESTRIAN SIGNALS  
PERPENDICULAR TO CURB



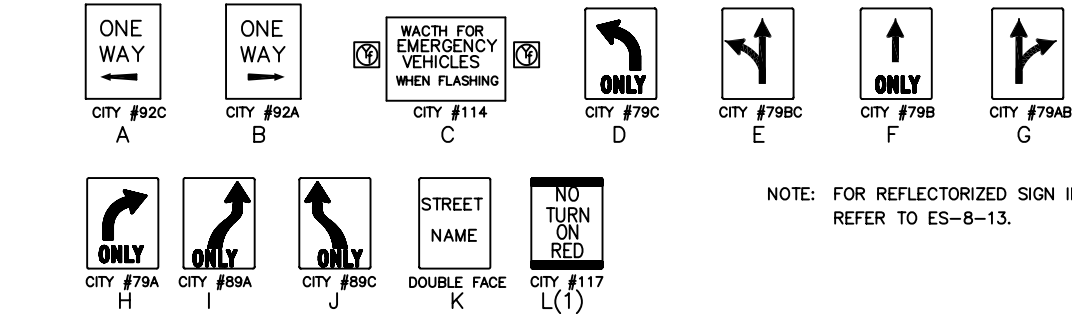
TRAFFIC CONTROL  
CABINET INSTALLATION

NOTES:  
CONTROLLERS (INCLUDING ANY SPECIFIED  
ACCESSORY EQUIPMENT) AND ANY NECESSARY  
WIRING DATA WILL BE AVAILABLE AT THE BUREAU  
OF TRAFFIC SERVICES 3300 COLERAIN AV.  
CINCINNATI, OHIO 45225.  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR  
CONDUIT & FITTINGS.

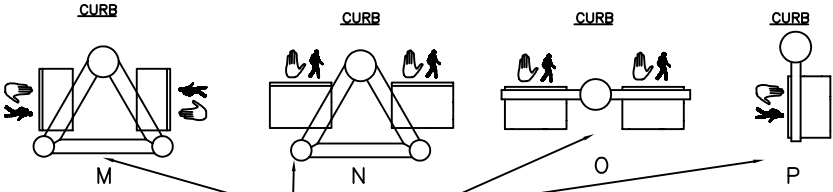
(B) 3/8" DRAIN HOLE.



				MPL / MOL -T SYSTEMS (ES-8)			
				TYPICAL PEDESTRIAN SIGNAL AND CONTROLLER CABINET INSTALLATION FOR MPL/T POLES			
				CITY OF CINCINNATI DEPT. OF TRANSPORTATION & ENGINEERING DIV. OF TRAFFIC ENGINEERING			
				APPROVED <i>Steve Bailey</i> DATE 3-4-99			
S.C.H.	<i>Steve Bailey</i>	9/13/04	UPDATE	SCALE	SOURCE	DRAWN	FILE NO.
				-		VGRD	ES-8-3A



NOTE: FOR REFLECTORIZED SIGN INSTALLATION IN BOOM REFER TO ES-8-13.



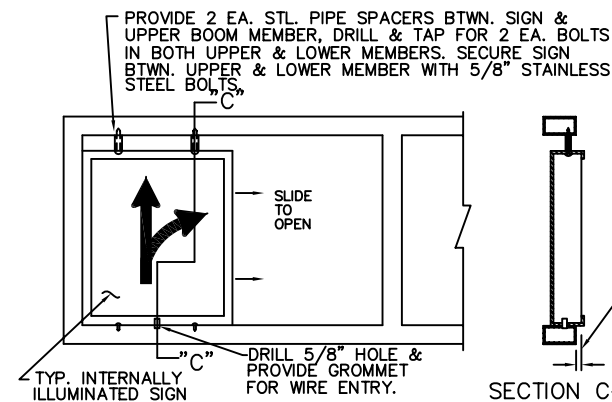
LEGEND FOR SIGNALS & SIGNS

NOTES: 1) FOR "S", SIGN FACE & CABINET SIZE SHALL BE 24"x 30" WITH THE FACE BLACKED OUT IN THE UPPER & LOWER 3" TO PROVIDE A 24"x 24" SIGN LEGEND.

2) LAYOUT AND LEGENDS ON SIGNS "F" THRU "Q" INCLUSIVE SHALL CORRESPOND TO REFERENCE LISTED, EXCEPT ILLUMINATED SIGN FACES, ON WHICH THE BORDERS SHALL BE OMITTED. LAYOUTS MAY BE OBTAINED FROM DIV. OF TRAFFIC ENGINEERING 801 PLUM ST., CINCINNATI, OHIO 45202.

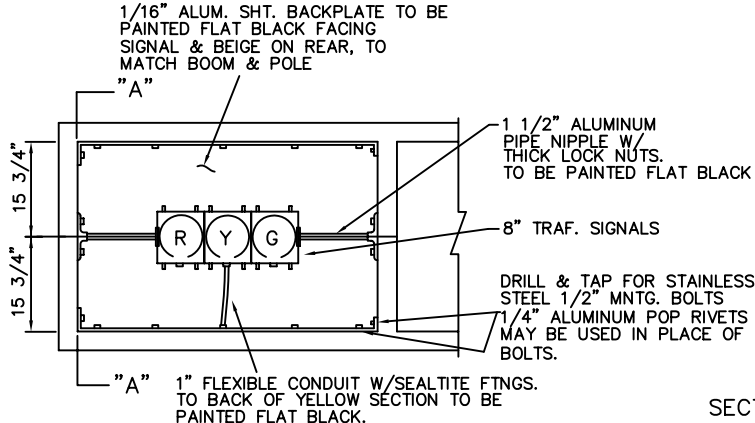


16" HAND-MAN P/S ALUMINUM (TYPICAL)

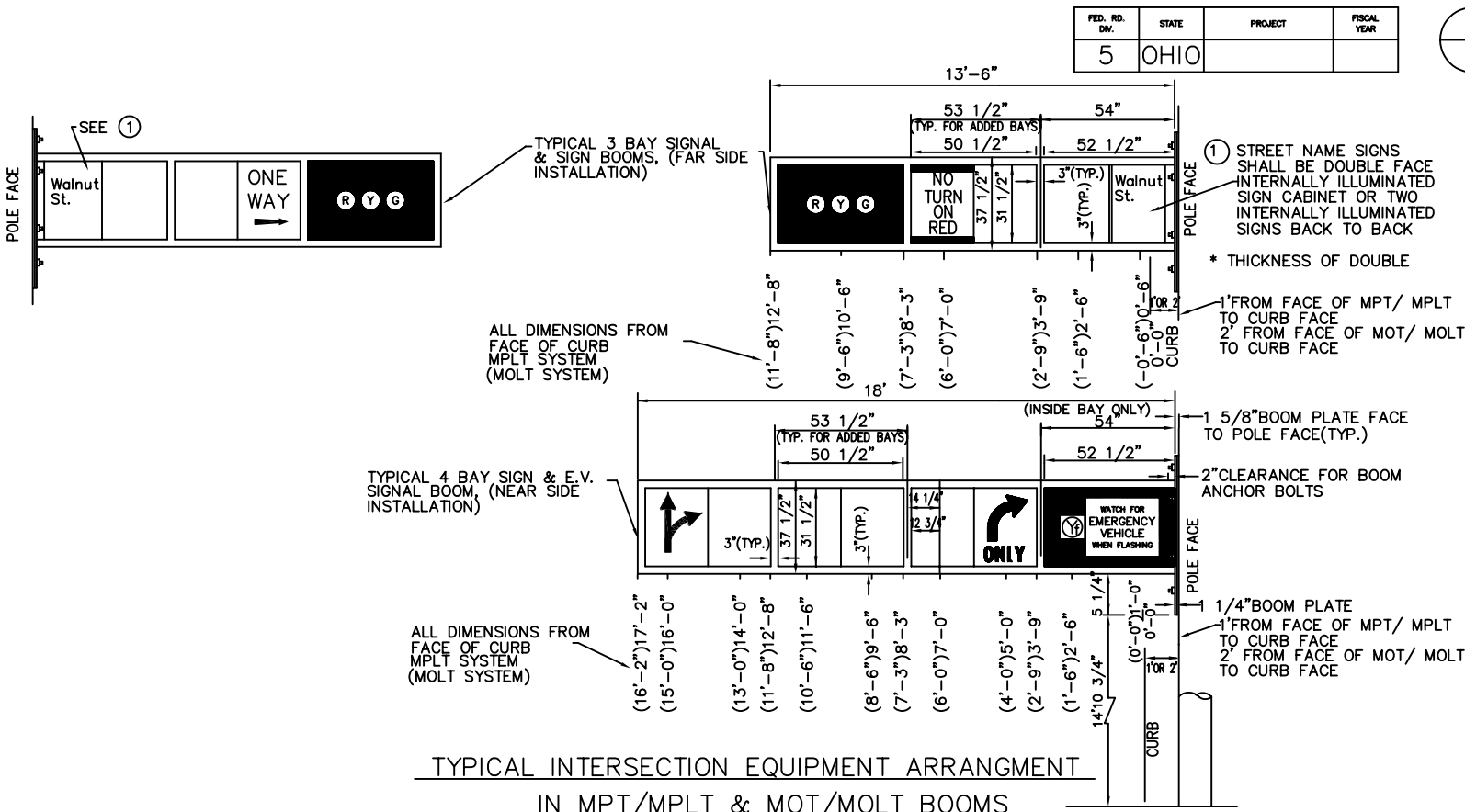


- NOTES:
- 1) INSTALL SIGN CABINET SO THAT THE REMOVABLE SECTION SLIDES AWAY FROM ANY ADJACENT PROJECTING EQUIPMENT SUCH AS SIGNAL HEAD, POLE OR ANOTHER SIGN. PROVIDE SUFFICIENT CLEARANCE TO PERMIT SIGN FACE REMOVAL AND INSTALLATION.
  - 2) PAINT SIGN CABINET & ALL MOUNTING HARDWARE BEIGE TO MATCH POLE WHERE THERE IS NO BACKBOARD
  - 3) PAINT BOOM BEIGE TO MATCH POLE.

TYPICAL INTERNALLY ILLUMINATED SIGN MOUNTING



TYPICAL TRAFFIC SIGNAL MOUNTING



- NOTES: 1) SIGNS CAN ONLY BE PLACED AGAINST LEFT OR RIGHT LEG OF BAY, EXCEPT IN FIRST BAY WHERE SIGNS MUST ALLOW A 2" CLEARANCE FROM BOOM PLATE.
- 2) UNUSED HOLES IN BOOM MUST BE PLUGGED WITH STEEL, PVC OR RUBBER PLUGS, EXCEPT IN BOTTOM SIDE OF HORIZONTAL BOOM MEMBER.

WIRING NOTES

TSC - TRAFFIC SIGNAL CABLE

TSMC - TRAFFIC SIGNAL MASTER CABLE

TPC - TRAFFIC SIGNAL POWER (SERVICE) CABLE

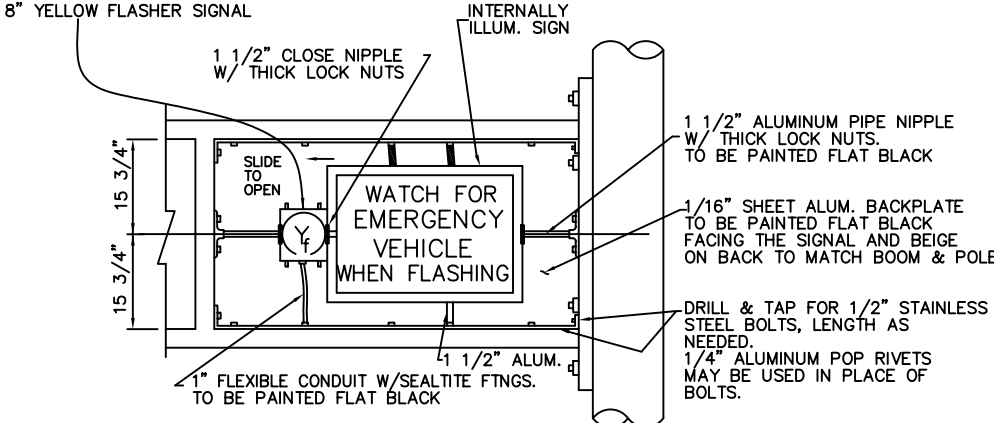
REFER TO STANDARD DRAWING ES-3-9 FOR WIRING REQUIREMENTS (WIRING CODE & SPlicing DETAIL)

EACH EMERGENCY VEHICLE SIGN & SIGNAL SHALL BE WIRED WITH 1 EA.-7C#14 TSC AND DIRECTLY ROUTED TO THE TRAFFIC SIGNAL CONTROLLER (HOME RUN) WITH NO SPLICES.

INTERNALLY ILLUMINATED TRAFFIC SIGNS SHALL BE WIRED WITH A 2C#12 TSC. ONE OR MORE SIGNS MAY BE CONNECTED TO A SINGLE 2C#12 TSC AS SPECIFIED IN THE PLANS.

BRANCH CIRCUITING IS PERMITTED TO CONNECT ONE OR MORE ADDITIONAL SIGNS TO THE 2C#12 TSC WITH PERMANENT APPROVED SPLICES IN THE APPROPRIATE PULLBOX WHERE SUCH SIGNS ARE LOCATED IN OTHER TRAFFIC BOOMS. A 2C#12 TSC SHALL BE USED TO CONNECT THE ADDITIONAL SIGNS TO THE SPLICES.

NO SPLICES SHALL BE PERMITTED FOR ELECTRIC SERVICE AND/OR INTERCONNECT CABLE.



TYPICAL EMERGENCY VEHICLE FLASHER & SIGN MOUNTING

- NOTES:
- 1) INSTALL SIGN CABINET AND FLASHER SUCH THAT, WHEN THE FLASHER DOOR IS OPEN, THE SIGN FACE WILL PASS IN FRONT OF IT FOR MAINTENANCE.
  - 2) SIGN IS ALWAYS BETWEEN THE FLASHER AND THE POLE.(OR CURB)
  - 3) CENTER SIGN & FLASHER IN BOOM BAY.
  - 4) PAINT SIGN CABINET, ALL MOUNTING HARDWARE, AND CONDUIT FLAT BLACK. IF POLYCARBONATE SIGNAL, COLOR SHOULD BE IMPREGNATED IN RESIN AT MANUFACTURER (GREEN BACK, YELLOW DOOR & FLAT BLACK VISOR.) THIS APPLIES TO FRONT SIDE OF SIGN IN FRONT OF BLACK BACKBOARD.
  - 5) PAINT BOOM BEIGE TO MATCH POLE.



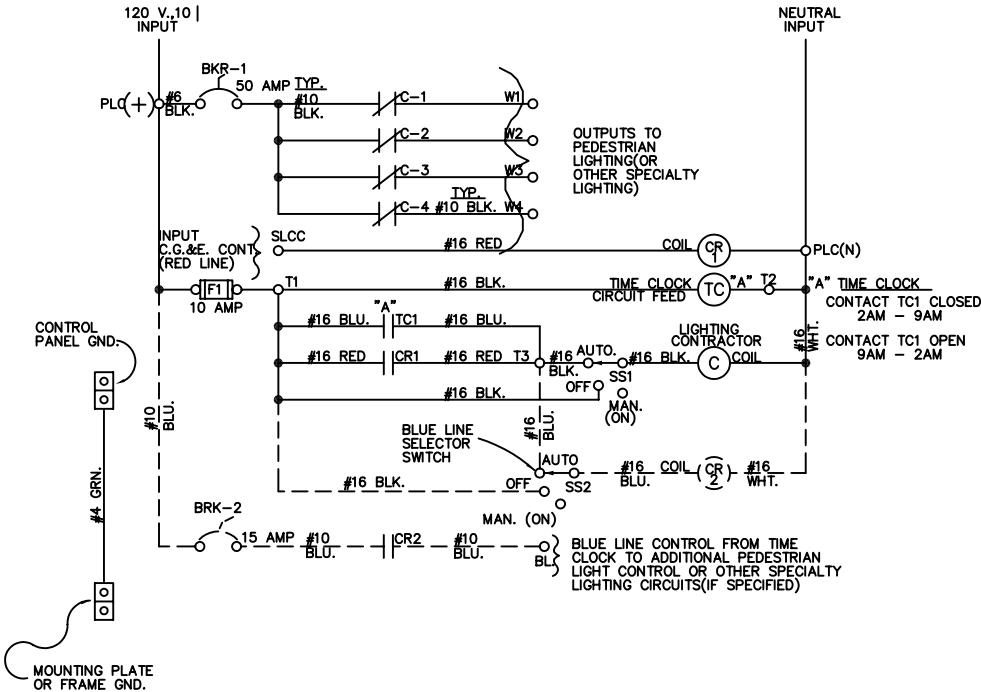
MPL / MOL -T SYSTEMS (ES-8)				TYPICAL TRAFFIC SIGNAL & SIGN INSTALLATION IN TRAFFIC BOOMS			
CITY OF CINCINNATI DEPT. OF TRANSPORTATION & ENGINEERING DIV. OF TRAFFIC ENGINEERING				APPROVED <i>Steve Bailey</i> DATE 3-4-99			
S.C.H.	<i>Steve Bailey</i>	9/8/04	UPDATE	DESIGN	REVISION	DATE	WO #
T.E.		3/1/98					
		11/30/94		SCALE	SOURCE	DRAWN	FILE NO.
				-		VGRD	ES-8-2

PROPOSED MATERIALS FOR STREET LIGHTING  
CONTROL UNIT

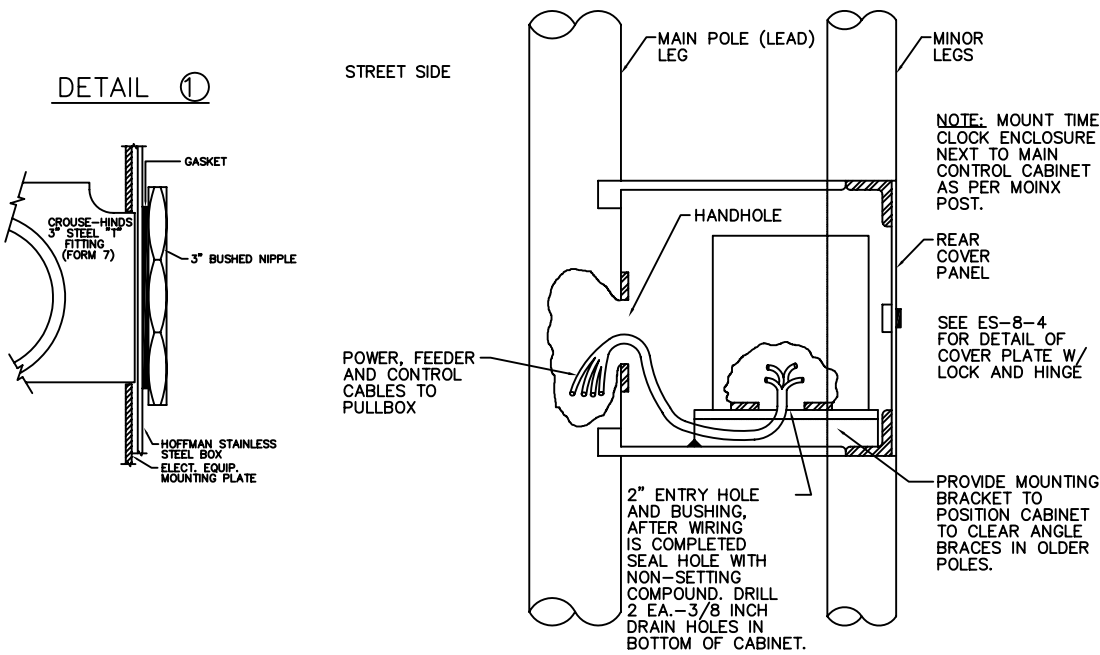
QTY.	DESCRIPTION OF MATERIALS PER UNIT
MATERIALS COMMON TO MOL/T & MPL/T AND SLAVE UNITS	
1 EA.	LIGHTING CONTROL CABINET, HOFFMAN #A-1212 CHNFSS, STAINLESS STEEL BOX, 12"x12"x6", S.S. HINGED COVER WITH #L24 S.S. QUICK RELEASE LATCH WITH HASP MODIFICATION, AND A #A-12P12 STEEL PANEL (WHITE).
1 EA.	C-LIGHTING CONTACTOR, 4 POLE NORMALLY CLOSED, ELECTRICALLY HELD, 30 AMP CONTACT RATING/25 AMP LIGHTING LOAD 120V-60HZ COIL, SQUARE D CLASS 8903 #L040V02.
1 EA.	BKR-1 CIRCUIT BREAKER - 50 AMP, 120V, PANEL MOUNTING, SQUARE D QOU SERIES.
1 EA.	SS1 - SELECTOR SWITCH, 3 POSITION, HEAVY DUTY, 10 AMP MIN. CONTACTS, PANEL MOUNTED, WITH LEGEND PLATE AS PER PLAN. *SS2-REQUIRED IF BLUE LINE OUTPUT SPECIFIED.
2 EA.*	POWER TERMINALS - UP TO #4 WIRE, CHANEL MTD., SQUARE D CLASS 9080 #GC6. (8EA - IF BLUE LINE OUTPUT SPECIFIED)
1 EA.	F1 - FUSE TERMINAL, SQUARE D CLASS 9080 #GF6 WITH #GH63 FUSE PULLER AND 10 AMP FUSE.
3 EA.	CONTROL TERMINALS, SQ. D. CLASS 9080 # GK6 (NOT REQUIRED FOR SLAVE UNITS.)
1 EA.	7" TERMINAL MOUNTING CHANNEL, SQUARE D CLASS 9080 #GH107
2 EA.	END TERMINALS SQUARE D CLASS 9080
1 EA.	SET OF MARKER STRIPS FOR TERMINALS.
2 EA.	GROUND LUG FOR #4 GND. WIRE
MATERIALS COMMON TO MPL/T & MOINX MASTER CONTROLS.	
1 EA.	CRI CONTROL RELAY, 115V. COIL, POTTER BRUMFIELD #KRP-14AG.
2 EA.*	* CR2 - REQUIRED IF BLUE LINE OUTPUT SPECIFIED.
1 EA.	CRI BASE - RELAY MOUNTING BASE, CUSTOM CONNECTOR #RB11-PC, * SECOND BASE REQUIRED WHEN CR2 USED.
1 EA.	BKR-2 - CIRCUIT BREAKER - 15 AMP, 120V, PANEL MOUNTING, SQUARE D TYPE QOU SERIES. *USED ONLY IF BLUE LINE OUTPUT SPECIFIED.
1 EA.	TC - TIMECLOCK, SOLID STATE DIGITAL WITH SPOT OUTPUT RELAY CONTACTS(120V, 10 AMP), ELTEC MODEL #TC-11-009.
1 EA.	NEMA 3R ENCLOSURE FOR TIME CLOCK - (TRAFFIC ENGINEERING STANDARD TYPE) - REQUIRED ONLY FOR MOINX.
1 EA.	MATERIALS USED ONLY FOR MOINX POST (MASTER OR SLAVE UNITS)
1 EA.	3"BUSHED NIPPLE WITH GASKET.
1 EA.	SMALL "J" HOOK MTD. TO PANEL, FOR CABLE GRIP LOOP.
1 EA.	CABLE GRIP BY KELLEMS.
1 EA.	GROUND LUG FOR #4 GND. WIRE (MOINX MOUNTING PLATE)

PEDESTRIAN & SPECIALTY LIGHTING CONTROL  
MASTER CIRCUIT SCHEMATIC

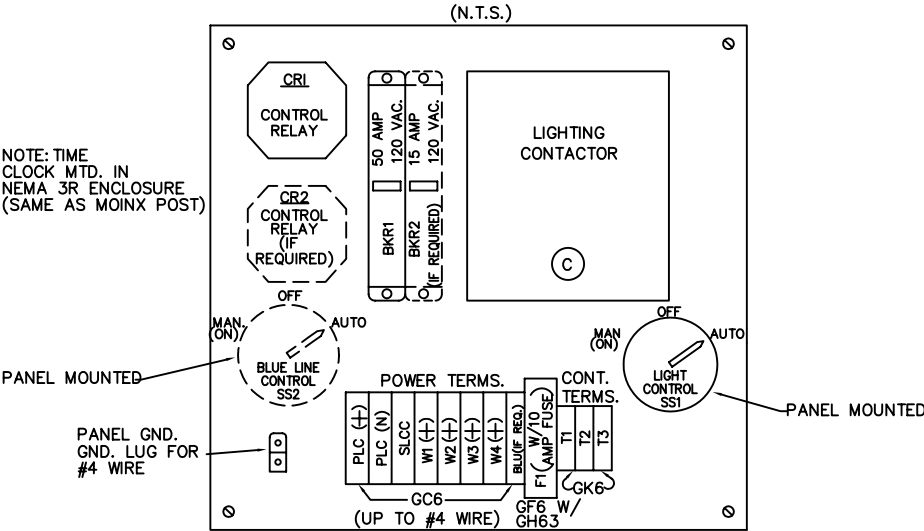
NOTE: CONTROL RELAY "CR2", SELECTOR SWITCH "SS2", TERMINAL "BL" ONLY PROVIDED WHEN CONTROL STATION TO MASTER OTHER LOCATION. (SEE PLANS & SPECIFICATIONS) MOL/T OR MPL/T SYSTEM.



LIGHTING CONTROL CABINET MOUNTING DETAIL  
MPL/T SYSTEM

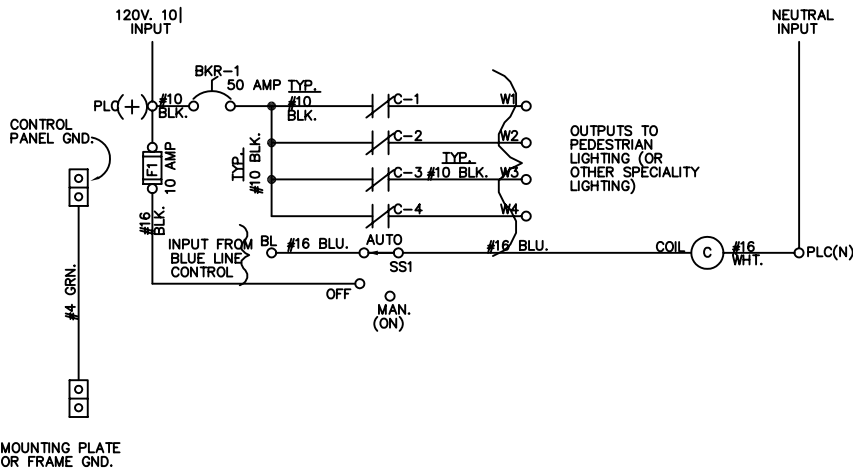


LIGHTING CONTROL PANEL LAYOUT  
FOR INSTALLATION IN MPL/T POLE LOWER  
SUPPORT COMPARTMENT. (MPL/T SYSTEM)



PEDESTRIAN & SPECIALTY LIGHTING CONTROL  
SLAVE CIRCUIT SCHEMATIC

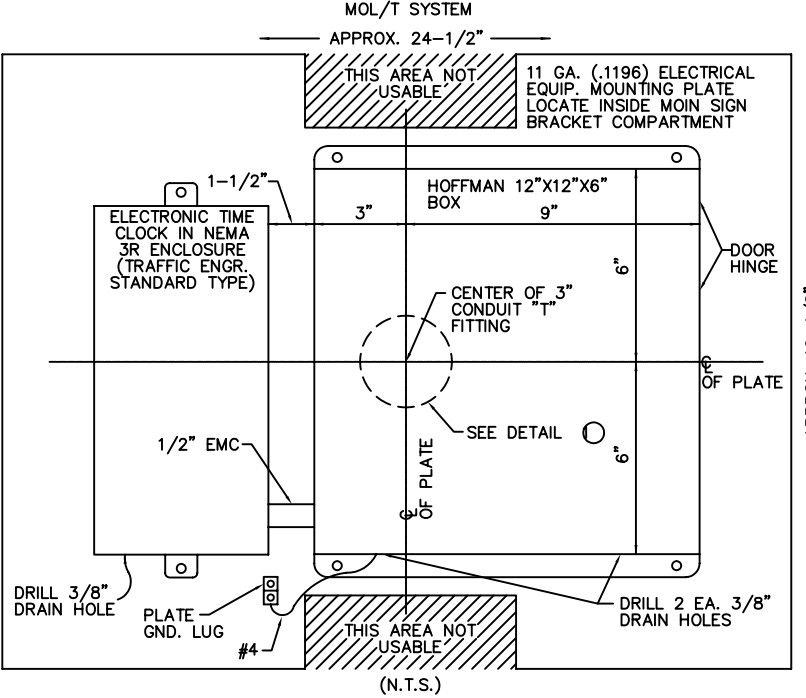
THIS CIRCUIT USED ONLY WHEN BLUE LINE CONTROL IS AVAILABLE FROM A LIGHTING CONTROL MASTER - USE SAME BOXES & SIMILAR PANEL LAYOUT



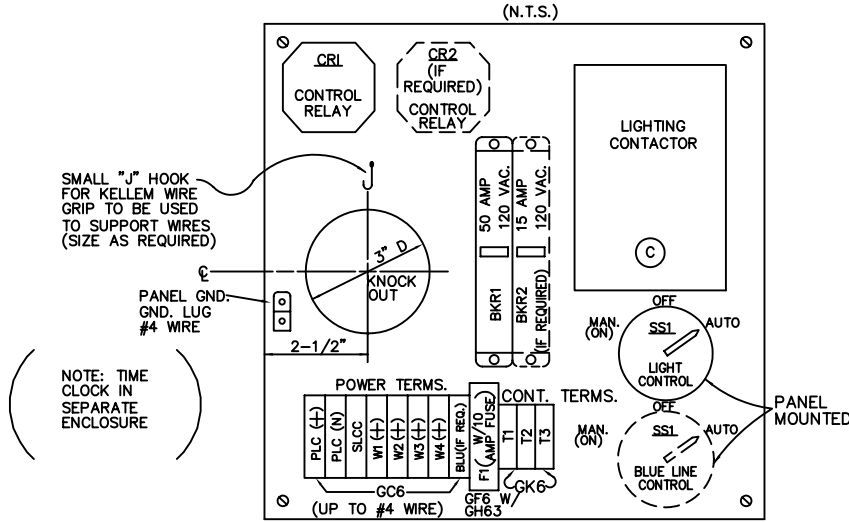
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		



ELECTRICAL EQUIPMENT MOINX POST MOUNTING PLATE LAYOUT



LIGHTING CONTROL PANEL LAYOUT  
(FOR INSTALLATION IN A MOINX POST (MOL/T SYSTEM)



MPL /MOL -T SYSTEMS (ES-8)

PEDESTRIAN AND SPECIALTY LIGHTING  
CONTROL CABINET AND  
WIRING DETAILS

CITY OF CINCINNATI  
DEPT. OF TRANSPORTATION & ENGINEERING  
DIV. OF TRAFFIC ENGINEERING

S.C.H.	Stone Bailey	9/15/04	UPDATE				
DESIGN	REVISION	DATE	WO #	SCALE	SOURCE	DRAWN	FILE NO.
J.F.N.	APPROVED	1/29/93		N.T.S.		CDS/B.C.P.	ES-8-9